S. HRG. 100-625

HEARING AID COMPATIBILITY ACT OF 1987

HEARING

BEFORE THE

SUBCOMMITTEE ON COMMUNICATIONS

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

SECOND SESSION

ON

S. 314

TO REQUIRE CERTAIN TELEPHONES TO BE HEARING AID COMPATIBLE

MARCH 31, 1988

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HEARING AID COMPATIBILITY ACT OF 1987

THURSDAY, MARCH 31, 1988

U.S. SENATE,
SUBCOMMITTEE ON COMMUNICATIONS,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:00 a.m., in Room SR-253, Russell Senate Office Building, the Hon. Daniel K. Inouye [Chairman of the subcommittee] presiding.

Staff members assigned to this hearing: John Windhausen; Tom Cohen, staff counsels; and Gina Keeney, minority staff counsel.

OPENING STATEMENT BY SENATOR INOUYE

Senator INOUYE. The hearing will please come to order. This hearing has been called to consider S. 314, the Hearing Aid Compatibility Act of 1987.

This bill would require almost all telephones distributed in the United States to be compatible with hearing aids. This hearing is coming about in part because of the extraordinary work of my colleague, Senator Pressler, and the representatives of the hearing impaired community who have been working with me for several years to enact this legislation.

Senator Pressler introduced this bill early in the 100th Congress. And at that time, there were seven co-sponsors. I am pleased to note that there are now 24 co-sponsors in the Senate.

The origins of this bill go back about seven years. In 1981, Senator Mathias introduced S. 604, which sought to make all telephones hearing aid-compatible. Senator Pressler and 16 others were co-sponsors of that bill.

At that time, however, there was some concern and uncertainty about the cost of requiring all telephones to be compatible. As a result, Senators Cannon, Goldwater, and Riegle later introduced a compromise bill which became the basis for the law now known as the Telecommunications for the Disabled Act of 1982.

I believe it is now time to revisit the issue of hearing aid compatibility. We have had over five years of experience with the 1982 act. In that time the deaf and hearing impaired, the telephone manufacturers, and the Federal Communications Commission have been able to measure the success and effects of that legislation.

We will hear from representatives of each of these groups this morning. Representatives of the deaf and hearing impaired persons in this country will tell us what their experience has been under the 1982 act and why that act was insufficient to serve their needs.

We will also hear this morning from representatives of telephone manufacturers who will be able to explain to us more clearly than before what the real costs of extending hearing aid compatibility to all telephones would be.

And we will hear from the Chief of the Common Carrier Bureau of the Federal Communications Commission, who will describe to us the Commission's experience in enforcing the 1982 law.

He will also inform us of the FCC's recent proposal to expand its definition of essential telephones that must be hearing aid compatible, as well as its recommendations that no further legislation is necessary.

To my mind, this bill is one of the important issues faced by this subcommittee. As a longtime supporter of the disabled, the disadvantaged, and the deaf, it is my fervent desire to go as far as we can to bring the benefits of telecommunications technology and services to all our citizens.

There are at least 20 million deaf and hearing impaired persons in this country, and at least four million of these people wear hearing aids. This bill has the potential to give the hearing impaired unconstrained access to the telephone network at a reasonable cost.

Our goal must be to permit hearing impaired persons to be full and equal participants in our society to the greatest extent possible. I look forward to hearing from all our witnesses this morning so that we can explore each of the issues raised by this bill.

And it is now my pleasure to call upon the author of this measure, Senator Pressler.

OPENING STATEMENT BY SENATOR PRESSLER

Senator PRESSLER. Thank you very much, Chairman Inouye, and this would not be happening without your leadership. And I want to thank you and your staff for the outstanding leadership that you have taken over the years in this area and related areas.

This hearing today will be very valuable to the elderly and to those who have a hearing problem. This legislation started in the 99th Congress. I also offered it as an amendment to the continuing resolution at the end of that Congress.

It was adopted by the full Senate but was not accepted by the House in conference. It now has broad bipartisan support, and 24 Senators are co-sponsors of the bill, including several Members of this Committee.

The companion bill in the House, sponsored by Mr. Mavroules, has over 100 co-sponsors. The need for this legislation is clear. The Telecommunications for the Disabled Act of 1982 made progress in this area, but affected only essential telephones.

Unfortunately, while some telephones are clearly more essential than others, any telephone becomes essential if it is the only telephone available. That is the practical reality of the matter which the 1982 act did not address.

The technology to make all traditional telephones hearing aid-compatible has been available for decades. In fact, before divestiture, AT&T manufactured only hearing aid-compatible telephones.

In this area, at least, divestiture resulted in a giant step backward. Slowly, more and more non-compatible telephones entered the market from a growing number of sources, including foreign manufacturers.

Did this need to occur? No. There is no significant cost saving resulting from making a non-compatible phone. The best estimate of the extra cost is in the neighborhood of 20 to 30 cents.

In fact, both GTE and AT&T found it advantageous to market only hearing aid-compatible telephones. All of GTE's products are hearing aid-compatible and all of AT&T's products, with the expectation of our cordless phones, are hearing aid-compatible. And they are in the process of converting that product.

These telephones are obviously cost-competitive, or non-compatible phones produced here and overseas. Or these two companies would be out of business. Most telephones in the United States are hearing aid-compatible today.

But most is not good enough. There is no reason for denying hearing impaired people the universal telephone service available to the rest of us. There is very little cost, this is something we can do.

There is no technological reason and no economic reason not to. This legislation would ensure that hearing impaired people are finally afforded the freedom of communication that the rest of our society already enjoys.

Mr. Chairman, this hearing is on S. 314. I intend, however, to substitute some new language in this bill before it is reported out of Committee, of course, with the agreement of the co-sponsors.

This new language is the result of extensive consultation with all affected parties, including all of the witnesses we hear from today. Certain concerns of the manufacturers were considered and addressed. At the same time the concerns of the hearing impaired community are still satisfied by the legislation.

The FCC responded by offering to expand its rules. This is a welcome development. But they would not go as far as this legislation proposes.

I would like to make two specific points with regard to the consensus language, which has been developed over the last couple of months.

First, the only telephones which would be exempted are those used with public mobile services for cellular phones and secure telephones, those used to transmit classified information.

Cordless telephones are not exempt. They just have a longer period within which to comply, three years as opposed to one year from the date of enactment. New technology is not automatically exempted by this legislation either.

My second point regards the new technological provision in the new language. It became clear during discussions that a new technology provision was needed. None of us can foretell the future, and some new technology could be developed which is not technically or economically possible to make compatible.

This is not an automatic exemption, however. The FCC must conduct a proceeding prior to granting any new technological exemption. Hence, the burden lies on the manufacturer to prove to the FCC that an exemption is needed. Any such exemptions granted will be subject to periodic review.

Some concerns were raised that this provision could be a loophole through which anything could be driven. I want to make it perfectly clear that this is not the intention of myself or any of those who worked on this language.

The new technological provision is intended to cover unforeseen circumstances, primarily with regard to specialized applications such as cellular telephones. Widely-marketed telephones intended for us in the average home and office are not what we intend to exempt through the new technological provision.

I believe we have the opportunity to give the hearing impaired community the same access to the telecommunications system that the rest of us enjoy. We must take this opportunity.

Mr. Chairman, thank you for your work on this and thank you for allowing me to explain the consensus that has recently been reached on this legislation.

I look forward to hearing from the witnesses. I am sure they can provide us with details of how compatibility works and what the effects of this legislation would be. Thank you.

Senator INOUYE. Thank you very much, sir.

I have opening statements from the Chairman, Senator Hollings and Senator Kerry that I will include in the record.

[The statements and bill follow:]

OPENING STATEMENT BY THE CHAIRMAN

I would like to congratulate you, Mr. Chairman, for holding this hearing on S. 314, the Hearing Aid Compatibility Act of 1987, which I commend Senator Pressler for introducing. I have supported the deaf and hearing-impaired for many years.

I see that a representative of Gallaudet College will be testifying this morning. Federal funding of Gallaudet College has always been one of my top priorities. I was heartened over the last few weeks by the further national attention that this fine institution received from the recent debate between the students and its administration over its new president.

Senator Pressler's bill is another effort to respond to the needs of the deaf and hearing-impaired. in addition, Senator McCain introduced his bill yesterday, which I cosponsored, to improve the federal relay system and require that most federal agencies acquire and install telephone devices for the deaf so that they can have access to the government just like everyone else. Congress is also considering the establishment of an institute to study the needs of the deaf within the National Institute of Health.

I applaud these efforts to assist the handicapped. in fact, to further assure access by the handicapped to important services, I have recently introduced a bill to ensure that the blind are not discriminated against in travelling by airplane. We must continue to find ways to ensure that the rights of the handicapped are protected.

I look forward to this hearing and hope that it will lead to constructive discussion and eventual agreement on ways to help users of hearing aids use the telephone.

OPENING STATEMENT BY SENATOR KERRY

I would like to commend Senator Pressler for revisiting this important issue and I am pleased to be a cosponsor of S. 314, which would require that all telephones manufactured, sold, rented or distributed in the United States be hearing aid compatible. For far too long hearing impaired individuals have been denied access to many telephones throughout our nation.

The telephone is something which many of us take for granted, but try for a minute to imagine yourself in a situation where you need to make an emergency call yet find the telephone to be dead. Unfortunately, this is a daily possibility for 2 million individuals who can only use hearing aid compatible telephones. This legislation would go a long way towards eliminating the frustration and limited access to the outside world being unnecessarily experienced by many of our fellow citizens.

The truth of the matter is that there is no reason for this inequity. The difference in cost between manufacturing a telephone hearing aid compatible verses non-compatible is negligible. We are not talking about expensive, complicated technology which will significantly increase the cost of telephones. Compatibility can be achieved with the inclusion of a magnetic field in the telephone receiver. This magnetic field triggers a device in the hearing aid, allowing the hearing impaired use of the phone. This type of technology has been around for over 35 years.

The major and growing problem is that cheaper mainly foreign phones, which have been pouring into this country since the breakup of the phone company, are not hearing aid compatible. Should this trend continue access to phones by hearing impaired individuals will be diminished even further. This legislation would eliminate this unacceptable situation and eventually lead to the compatibility of all phones.

I was pleased to learn that the phone system recently installed in the Senate is hearing aid compatible. But unfortunately companies in the United States can still purchase telephone systems which are not hearing aid compatible. What does this do to the prospects of hiring a hearing impaired individual? And if the company does hire a hearing impaired person and even provides a compatible phone, what happens when that person needs to make a call from the desk of a colleague, in a meeting room, or from the cafeteria?

We must act now to break down this unnecessary barrier to communication and give the hearing impaired the same benefits which the hearing world has and often takes for granted. We have an obligation to insure that these individuals have equal opportunity in the work force, and in every aspect of life which is touched by the telephone. By doing so we will be assisting the hearing impaired in overcoming their handicap and leading a normal, productive life.

I commend the Chairman for scheduling this important hearing. I look forward to reviewing the testimony here today and to working with Senator Pressler and others in order to address this serious problem.

100TH CONGRESS
1ST SESSION

S. 314

To require certain telephones to be hearing aid compatible.

IN THE SENATE OF THE UNITED STATES

JANUARY 14 (legislative day, JANUARY 13), 1987

Mr. PRESSLER (for himself, Mr. MATSUNAGA, Mr. INOUYE, Mr. HEINZ, Mr. DODD, Mr. STAFFORD, Mr. COCHRAN, and Mr. SIMON) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

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A BILL

To require certain telephones to be hearing aid compatible.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Hearing Aid Compatibility Act of 1987".

SEC. 2. (a) Subject to the provisions of subsection (b), all telephones sold, rented, or distributed by any other means in the United States shall be hearing aid compatible, as defined in regulations promulgated by the Federal Communications Commission.

(b) The provisions of subsection (a) shall not apply to any telephone—

(1) that is manufactured before the effective date of this Act; or

(2) which is not required to be registered under 47 C.F.R. 68.

(c) The provisions of this Act shall be effective six months after the date of enactment of this Act.

Senator INOUYE. Our first witness is the Chief of the Common Carrier Bureau of the Federal Communications Commission, Mr. Gerald Brock. Mr. Brock, welcome, sir.

STATEMENT OF GERALD BROCK, CHIEF, COMMON CARRIER BUREAU, FEDERAL COMMUNICATIONS COMMISSION; ACCOMPANIED BY JIM TALLONS, DOMESTIC FACILITIES DIVISION

Mr. BROCK. Thank you, Mr. Chairman and Members of the Committee. I am accompanied today by Mr. Tallons, the head of our Domestic Facilities Division.

I welcome this opportunity to provide the Committee with an update on the Commission's effort to secure adequate access to telecommunications services for the hearing impaired. We look forward to working with Congress to develop policies and regulatory measures which further that goal.

Last year the Commission began a proceeding to evaluate its progress in implementing the goal prescribed by Congress that we should "establish such regulations as are necessary to ensure reasonable access to telephone service by persons with impaired hearing." Last week we issued a report in that proceeding reaching tentative conclusions in proposing further areas of inquiry. I would like to review our conclusions so far.

First, we tentatively concluded that the definition of essential telephones should be expanded. The current law requires that essential telephones be compatible with telecoil-equipped hearing aids. Our regulations classify coin telephones, emergency use telephones, and telephones at the work station of a hearing impaired person as essential telephones which must be telecoil-compatible.

We proposed in last week's notice to expand that definition to include card-operated as well as coin-operated public telephones, and to include work place telephones in common areas that hearing impaired employees may need to access, such as libraries and reception areas.

Second, we evaluated the need for new legislation that would expand telecoil compatibility to all telephones. The record of our proceeding indicated little need for such a universal telecoil compatibility requirement. No commenters suggested ways in which telecoil compatibility in private telephones used by non-hearing impaired persons would benefit the hearing impaired community. Moreover, of the 28,000 complaints processed by the Common Carrier Bureau since 1984, only two have related to problems of hearing aid compatibility. Finally the record indicated that the percentage of telecoil-equipped hearing aids has dropped from 49 percent in 1982 to 30 percent in 1986.

We also found however, that telecoil compatibility remains essential for some hearing aid users. AT&T estimated that a universal hearing-aid compatibility requirement would add 12 to $24 million per year in additional costs beyond those incurred by the existing essential telephone compatibility requirement. At present, a large percentage of standard cord telephones are hearing aid-compatible by voluntary decision of the manufacturers.

However, more specialized telephones, such as cordless telephones, mobile telephones, and very lightweight headset telephones, generally are not telecoil-compatible and would require substantial additional expenditures in order to be made telecoil compatible.

In sum, the record indicated that universal compatibility would impose additional manufacturing costs and limit future technology, while few benefits could be determined from hearing aid compatibility for privately used telephones. Therefore, the Commission concluded that Congress reached the proper balance on these issues in the Telecommunications Act of 1982.

However, our record did indicate a need for further action to improve the ability of the severely hearing impaired to communicate. The severely hearing impaired generally cannot use an ordinary telephone, even with hearing aid compatibility. They generally use TDDs as a method of telephone communications.

All of the informal comments received from individuals in the proceeding, together with most of our complaints and Congressional mail related to hearing issues, has been related to difficulties in using TDDs. The most common complaint is the lack of an interstate relay system. Several states provide intrastate relay systems to connect TDD users with hearing users. But there is no interstate system.

We have initiated further proceedings to clarify the requirements for an interstate TDD system. But we note that any attempt by the Commission to mandate an interstate system raises new and novel issues regarding our legal authority.

After reviewing comments on the issue, we hope to determine whether such a system should be established and whether legislation would be required to establish a funding source or to explicitly authorize the subsidization of such a system by other telephone users.

A related problem with TDD systems is the limited number of TDDs and their general inability to communicate with standard computer systems. Although specialized TDD systems are cheaper than ordinary per-

sonal computers, they limit the ability of the hearing impaired to access the large community of people who have computer capability, including most government agencies and businesses, but who may lack TDDs.

We are continuing to investigate this issue and evaluate the opportunities for promoting more widespread compatibility between TDDs and other computer systems.

Thank you for this opportunity to report on our efforts to make available to all the people of the United States, including the hearing impaired, a radio and wire communications service with adequate facilities at reasonable charges as we have been instructed by the act of 1934.

[The statement follows:]

STATEMENT OF GERALD BROCK, CHIEF, COMMON CARRIER BUREAU, FEDERAL COMMUNICATIONS COMMISSION

The Federal Communications Commission remains firmly committed to ensuring that the hearing impaired obtain adequate access to telecommunications services. We look forward to working with Congress, as we have in the past, to develop policies and regulatory measures which further that goal.

The bill under consideration today would expand the Telecommunications for the Disabled Act of 1982 ("Disabled Act") by requiring all telephones sold, rented, or distributed in the United States to be hearing aid compatible. You have invited the Commission to comment on the need for such legislation, the particular merits of S. 314, the potential costs involved, and the need for any exemption.

The Commission initiated a proceeding in 1987 to consider, inter alia, the issues addressed by S. 314.1 I would like to review our progress in that proceeding and provide you with pertinent information from the record we have developed and with the conclusions we were able to draw therefrom. Our overall conclusion is that Congress struck the proper balance on these issues in the Telecommunications for the Disabled Act of 1982. The record developed in our proceeding indicates that no modification to that legislation is necessary.

The Commission's currently effective regulations governing the availability of telecommunications equipment and services for the hearing impaired were adopted in 1983.2 These rules: (1) require telephones classified as "essential"3 to be internally compatible with hearing aids specially designed for telephone use;4 (2) set forth the technical

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1 Access to Telecommunications Equipment and Service by the Hearing Impaired and Other Disabled Persons, 2 FCC Rcd 2836 (1987); 52 Fed. Reg. 19198 (May 21, 1987) (notice of inquiry).

2 Access to Telecommunications Equipment by the Hearing Impaired and Other Disable Persons, Order, CC Docket No. 83-427, 49 Fed. Reg. 1352 (January 11, 1984), modified, 49 Fed. Reg. 19666 (May 9, 1984), further modified, FCC 84-382 (released August 13, 1984), and 47 C.F.R. Part 64, subpart F, Sections 68.4, 68.112, 68.224 and 68.316. The Disabled Act is codified at 47 U.S.C. § 610. The Cable Communications Policy Act of 1984, Public Law No. 98-549, redesignated the Disabled Act as Section 710, but did not add a new Section 610. We will continue to refer to the Disabled Act as Section 610 to be consistent with other references in this Docket.

3 "Essential Telephones" include only coin-operated telephones, telephones provided for emergency use, and other telephones frequently needed for use by persons using hearing aids specially designed for telephone use. 47 U.S.C. § 610(b).

4 Most external hearing aids have a built-in telephone pick-up, or

standards hearing aid compatible telephones must meet; (3) require each telephone package to denote whether the telephone is hearing aid compatible or not; and (4) allow carriers to provide "specialized terminal equipment" to persons with hearing, sight, speech and mobility impairments, and permit state commissions to allow carriers to recover through tariffs "reasonable and prudent costs not charged directly to users of such equipment."

Given the rapid pace of technological change and innovation in the telecommunications industry, the Commission determined that its rules might quickly become obsolete. To ensure that our regulatory efforts reflected the current needs of the hearing impaired and the most up-to-date solutions, we established Docket 87-1245 in 1987 to examine the effectiveness of our rules in light of the present telecommunications needs of the hearing impaired. Through the proceeding, we hoped to gather any available data relevant to these issues and to evaluate the need for any regulatory measures or legislative initiatives such as that embodied in S. 314.

The Commission received information and comments from a wide range of groups in Docket 87-124. After reviewing and analyzing the record, the Commission was able to make a number of determinations on the issues raised by the parties and to identify areas requiring further information and analysis. Accordingly, on March 24, the Commission adopted a Notice of Proposed Rulemaking and Further Notice of Inquiry (Notice) in this docket. In the Notice, the Commission takes a variety of different actions on the various issues.

Expanded Definition of "Essential Telephones"

First, we propose to change our rules to expand the category of phones that must be equipped to be compatible with telecoil hearing aids pursuant to the Disabled Act of 1982. Section 610(b) of the Disabled Act directed the Commission to "require that essential telephones provide internal means for effective use with hearing aids that are specially designed for telephone use . . ." (emphasis added). The Disabled Act also

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"telecoil," which is activated by a switch on the hearing aid. When this switch is placed in the "telephone" position, the microphone is turned off and the hearing aid can be used at full volume without feedback and with minimal background noise. These hearing aids are activated by the magnetic field generated by telephone handsets. In-the-ear hearing aids generally rely on audio amplification rather than electromagnetic coupling (and a telecoil) to provide the wearer with telephone access. Unless otherwise indicated, references to hearing aid compatible telephones refer to equipment which is compatible with a telecoil type hearing aid. See House Report No. 97-888, 97th Cong. 2d Sess., at p.8 (House Report).

5 See note 1, supra.

specifically directed the Commission, in implementing the Act through regulations, to consider the costs and benefits to "all telephone users, including persons with and without hearing impairments," and to adopt rules that "encourage the use of currently available technology and do not discourage ... the development of improved technology." 47 U.S.C. § 610(e).

While entrusting the Commission with this responsibility, Congress included certain constraints. Section 610(b) sets limits on the telephones that are to be hearing aid compatible. In the House Report accompanying the Act, Congress stated:

> Under no circumstances may the Commission designate as an essential telephone any residential telephone or any other telephone if all the persons who would normally use it do not have hearing impairments.6

Our Rule (Section 68.112, 47 C.F.R. § 68.112) currently defines essential telephones to include coin-operated telephones; credit card telephones where there is not a coin-operated telephone nearby and readily available; telephones in elevators, tunnels and hospital and convalescent home rooms; telephones in ten percent of rooms in hotels/motels; the work station telephones of employees with hearing impairments requiring the use of a telephone to conduct their work assignments; and telephones made available for use by the public in places of business or buildings in which visits by the public are reasonably expected.

The comments varied on whether the current provisions of the rules are adequate and whether the Commission should expand the definition of "essential."

Self Help for Hard of Hearing People, Inc. (SHHH) is an educational, self-help organization. The majority of its members wear hearing aids. SHHH believes that the current rules have not been more effective because of

(a) continued widespread ignorance of the rules,
(b) delegation of enforcement powers to states adopting the rules, and
(c) inadequate consumer participation in implementation of rules provided for their needs. A combination of these three factors adds up to slow progress toward Congressional intent.

SHHH Comments, p. 1.

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6 H.R. Rep. No. 888, 97th Cong. 2d Sess. 9 (1983).

One area of the Commission's rules SHHH feels warrants strengthening involves the workplace. Section 68.112(c)(2) requires employers to provide HAC telephones only at the work stations of employees with a hearing impairment. To ensure such employees have access to a telephone throughout the work premises, SHHH suggests that employers be required to provide either HAC telephones in whatever areas such employees may have reason to visit, or portable external induction coupling devices.

Maryland People's Counsel[7] believes the Commission has not adequately met its Congressional mandate to ensure that all the people of the United States have access to communication services. In its view, there is no justification for the Commission establishing a different standard for people with disabilities. The disabled are an integral part of the total population, and share the same problems, family life, and responsibilities as other citizens. MPC thus feels this group should not be segregated and subjected to regulations which limit their access to telecommunications services.

MPC believes the definition attached to the term "essential telephones" limits the rights and privileges of the disabled. It feels the term was adopted to meet the needs of the telephone industry, not those of the disabled. Because there is no barrier to preclude the Commission from adopting a broader definition of "essential telephones" and there is a need to expand the availability of communication services for the hearing impaired, MPC recommends that the Commission modify its rules. First it recommends that Section 68.112(c)(1) be modified to include card-operated telephones. Noting that the rule does not require card-operated telephones to be HAC if they are nearby coin-operated telephones, MPC suggests the term "nearby" is relative. To a hearing impaired athlete, it means one thing; to a mobility impaired person, something else.

Second, it believes that Section 68.112(c)(2) requires modification, as it now creates a hardship in the workplace. Because the rule requires an employer to place a HAC telephone only at the work station of an employee with a hearing deficiency, the employee's flexibility and mobility are impeded and his usefulness is lessened. To improve employment opportunities and the productivity of such individuals, MPC recommends that Section 68.112 (c)(2) be amended to require employers to install HAC telephones at all sites within the work premises where hearing impaired

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7 Maryland People's Counsel submitted comments on behalf of itself and the Hearing and Speech Agency of Metropolitan Baltimore, Inc., Maryland Department of Health and Mental Hygiene, Maryland Governor's Commission on Hearing Impairments, Maryland Governor's Office for Handicapped Individuals, National Center for Law and the Deaf, Organization for Use of the Telephone, Inc. and Telecommunications Exchange for the Deaf, Inc. (hereinafter jointly referred to as MPC).

persons might expect to need a telephone and that all telephones installed on the premises after a certain date be HAC. Third, it suggests that the Disabled Act allows the Commission to require coin- and card-operated telephones to be equipped with amplifier handsets. MPC contends the additional volume is required by many mildly and moderately hearing impaired individuals as well as those with severe hearing problems. In recognition of the importance of amplifier handsets, MPC suggests that the Commission adopt a rule similar to a law enacted by the State of Connecticut, which requires 25% of coin and card-operated telephone to have amplifier handsets.

Finding that the cost of HAC telephones is on a par with incompatible ones, the supply of HAC telephones has increased and vendors are now familiar with the Commission's rules, MPC suggests that hotels and motels be required to implement a program of annually replacing 10% of their incompatible telephones with HAC units and all new telephone installations be of the HAC variety. Such a program, MPC feels, will result in hotels and motels being completely accessible to wearers of hearing aids equipped with telecoils within a decade, as well as allowing them to receive telephone service at the same rate as other guests.

Finally, MPC relates that many inexpensive telephones fail to provide satisfactory performance even though they meet the minimum magnetic field strength levels defined by Section 68.316. This rule defines the magnetic field strength levels a telephone must meet in order to be classifed as HAC. To rectify this deficiency it recommends that Section 68.316 be modified to increase the minimum acceptable magnetic field strength level or, alternatively, to increase both the minimum and maximum levels but retain the current numerical difference between the levels.

GTE also states that the Commission, based upon a proper record, may broaden the definition of "essential telephones." GTE contends hearing aid users should have greater access to telephones in the workplace than in private homes. It believes all business telephones should be classified as "essential." If the Commission decides not to include residential telephones in the essential category, GTE suggests the Commission may want to strengthen the labeling requirement for non-hearing aid compatible telephones to provide consumers with more information regarding the pros and cons of owning an incompatible telephone.

Finally, GTE urges that should the Commission decide to classify business and residential telephones as essential it should grandfather refurbished telephones. GTE estimates that the cost of retrofitting a refurbished telephone to make it hearing aid compatible ranges between $2.60 and $4.50, depending upon the style. Imposing this additional cost on refurbishers, GTE maintains, would make refurbishing unattractive because new telephones are becoming less and less expensive, and would probably destroy the refurbishing industry.

A report submitted by Gallaudet Research Institute (GRI) discloses that 95 percent of the sample's visually impaired persons were satisfied

with their ability to use the telephone, whereas only 20 percent of the hearing impaired and deaf-blind were satisfied.8 Fifty percent of the hearing impaired surveyed could not hear using a hearing aid; the other fifty percent could hear and understand normal speech when using an assistive listening device at least some of the time with some people.9 In generally outlining the problems which limit access of the disabled to telephone services, the Report does not associate specific problems with a specific disability. However, certain listed complaints naturally attach to the hearing impaired, e.g., "insufficient volume control," "public telephones without amplified handsets" and "should make ringers louder."10 On the specific matter of workplace telephone access, some survey participants claim they experience (1) difficulty obtaining employment, (2) difficulty understanding callers, and (3) problems using some telephones.

Section 68.112(c)(2) of the rules only requires that an HAC telephone be made available at the work station of the hearing impaired employee, i.e., "the location within a workplace where that employee is usually found in the course of his or her employment duties." The rule was based on language in the House Report that "[a]n employee should have access to at least one compatible telephone...." House Report at 10. But that report also stated "[t]he Committee is concerned that inability to use telephones should not impair the productivity of persons using a hearing aid in their place of work." Id.

In our Notice, we propose a rule change to expand the areas where workplace telephones must be HAC to include all common areas that hearing impaired employees may need to access in the ordinary course of their employment. These would include telephones in library, reception, and similar areas. We invite comment on the costs and benefits of this proposal. We also ask what, if any, grandfathering would be appropriate. See 47 U.S.C.§ 610(f).

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8 Final Report, Disabled Consumers: An Exploratory Opinion Survey, Joint Telecommunications Project of the Consumer Federation of America, The American Association of Retired Persons and American Telephone and Telegraph, Inc. January 1987 (Report). The Report notes the study "was limited in scope and not intended to be generalizable to the population as a whole. The study examined the opinions of persons from three categories of disabling conditions: hearing impairment [43 interviews], visual impairment [25 interviews], and mobility impairment [33 interviews]". Report, Summary p. 1.

9 Report at p. 8.

10 Report at p. 13.

We also propose a rule change to require HAC for credit card telephones. Section 68.112(c)(1) of the rules currently provides that such telephones generally must be hearing aid compatible, "unless a hearing aid compatible coin-operated telephone providing similar services is nearby and readily available." The "unless" clause was based on the Commission's interpretation of language in the House Report: "The Committee intends that the Commission employ a common-sense approach; if a usable pay phone is nearby and readily available, the incompatible instrument is not needed by the hearing impaired'." House Report at 10. The factor governing whether a credit card telephone need be HAC -- whether a coin-operated HAC telephone is "nearby and readily available" -- is difficult to define or enforce. Our records show 12 models of credit card telephones have been registered under Part 68 since 1982, and 10 clearly are HAC. Two applications were granted which did not affirmatively state the telephones were HAC, but it is not clear that the telephones in question are not HAC, and if they are not, what costs would be incurred to make them so. Accordingly, we propose to delete the "unless" clause from Section 68.112(c)(1) and seek comment on the costs and benefits of this proposal.

Need for New Legislation

The second issue considered in the Notice is whether we should recommend to Congress that it amend the Disabled Act to expand the Commission's authority. As you know, under the present Act, telephones classified by the Commission as "essential" must be compatible with hearing aids using telecoil technology. In the Notice, we consider whether to seek from Congress an amendment that would authorize us to extend the telecoil compatibility requirement to all telephones, as S. 314 would do.

The comments varied on whether we should recommend that the Congress amend the Disabled Act to require that all telephones be hearing aid (i.e., telecoil) compatible.

SHHH argues such an amendment would disserve the hearing impaired community because as now structured, the proposed legislation would exempt telephones from the HAC standard if they are not required to be registered under Part 68 of the Commission's rules, 47 C.F.R. Part 68. Falling in this category are coin telephones owned by telephone companies. On the other hand, current legislation requires all coin operated telephones to be compatible. SHHH states that the philosophy of "choice" is deeply rooted in our society. It then suggests that the hearing impaired could minimize their problems by educating those persons who buy incompatible telephones to this group's needs rather than seeking federal legislation which eliminates consumer choice.11

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11 The idea of greater dissemination of information to improve hearing impaired access to telephone services is also supported by Gallaudet Research Institute, among others.

Several commenters state that economical specialized telephone equipment designed for the hearing impaired mitigates the need and demand for HAC telephones. For example, the American Telephone and Telegraph Company (AT&T) notes that it offers the Portable Telephone Amplifier through its National Special Needs Center and Phone Centers. This device sells for approximately $24.95 and easily attaches to any telephone. It transforms an incompatible telephone to a HAC unit or provides 20 dB additional amplification for wearers of hearing aids not equipped with telecoils. It also offers an amplifier handset which may be used with earlier model telephones.

AT&T states that, with the exception of its cordless telephones, all telephones it supplies are HAC. To make its cordless units HAC, AT&T claims it would cost an additional $1.50 per unit. Otherwise, a rule requiring universal HAC would not alter its manufacturing costs. It explains it has embedded costs of $0.25 per corded telephone to accommodate HAC.

Commenters also argue that requiring universal compatibility could impede innovation which could lower prices and could impede the introduction of new technology. AT&T argues that such a rule could impose additional costs of $0.50 to $1.00 for all future telephones and imposition of technical standards on telephone manufacturers could be useless unless similar standards are imposed on hearing aid manufacturers. Without such standards, AT&T argues that there is no guarantee that hearing aid technology will always mesh with that of telephones. The Bell Atlantic Telephone Companies contend generally that hearing aid and telephone technologies are changing rapidly and therefore regulatory requirements should not be imposed making their future application impractical. The Electronic Industries Association also noted technological changes as its reason for opposing universal HAC. Other commenters endorse requiring future telephones to be HAC.12

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12 United Telephone System Companies state they do not oppose universal hearing aid compatibility after a certain date. In fact, these companies say they have been purchasing and using only hearing aid compatible telephones since 1984. The New York State Department of Public Service supports a universal hearing aid compatibility requirement if the Commission finds the additional manufacturing cost in fact is de minimus as claimed by some parties. Alexander Graham Bell Association for the Deaf also supports this idea. It offers this support because it believes there always will be a segment of the hearing impaired population whose hearing deficiency will be such that a telecoil equipped hearing aid will be necessary in order for them to use a telephone.

MPC recommends that the Commission support legislation now before Congress to require all new telephones to be hearing aid compatible. It feels that, if enacted, such legislation would enable hearing impaired persons to have the same access to the telecommunications network as others, would relieve the Commission of certain monitoring and enforcement responsibilities, and would eliminate the restraining language of Section 610(b) of the Disabled Act.[13]

Ameritech Operating Companies say they do not anticipate any impediments to development and growth of their networks as a result of such a rule. They caution, however, that such a requirement should contain a proviso making HAC mandatory and uniform on a national basis. Otherwise, incompatible technology might be developed resulting in future stranded plant investment. GTE Service Corporation (GTE) also favors the idea. It discloses that its unit costs for HAC telephones (including cordless ones) range between $0.20 - $0.50. But, it notes, the true cost of such a rule includes more than the unit cost. Legislating a design parameter might impede network technological advances, resulting in a cost too high to pay. Thus, it recommends that the Commission, in evaluating the costs/benefits of universal HAC, may wish to adopt a waiver standard permitting research and development to continue on devices which cannot be made HAC. Alternatively, it suggests that the Commission may want to adopt a "sunset" provision on the HAC requirement which would force a review of the "costs/benefits" to determine whether technological changes warrant retention of the rule. For example, hearing aids' design could advance to the point where magnetic coupling with the telephone would no longer be necessary. In GTE's view, by allowing exceptions to a universal HAC rule, the Commission would be operating within Congressional intent to permit the manufacturing and marketing of telephones incompatible with hearing aids. According to GTE, not only was the intent of the legislation to define essential telephones, but also to allow for the production and retail of incompatible telephones. Without a statutory change, GTE urges, the Commission cannot impose a 100% HAC requirement.

Commenters were asked to provide specific statistical data regarding hearing aids and their wearers. All data supplied appear to be based on information originally collected by HIA. In view of that, there

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13 Section 610(b) of the Disabled Act reads:

> [T]he Commission shall require that essential telephones provide internal means for effective use with hearing aids that are specifically designed for telephone use. For purposes of this subsection, the term "essential telephones" means only coin-operated telephones, telephones provided for emergency use, and other telephones frequently needed for use by persons using such hearing aids.

is little variation in the information supplied by the parties. Other than the total number of users requiring hearing aids equipped with telecoils, a datum commenters state is indeterminate, the table below displays the information requested by the NOI.

Table 1

	Total No. of aids sold	Fraction of aids with Telecoils	Total No. of ITE aids sold	Fraction of ITE aids with Telecoils	Total No. of non-ITE aids sold	Fraction of Non-ITE aids with telecoils
1982	854,485	48.5%	359,027	10.1%	495,458	76.3%
1983	1,029,680	43.5%	508,652	10.1%	521,028	76.1%
1984	1,102,887	37.8%	638,748	10.1%	464,139	75.9%
1985	1,136,864	33.6%	730,310	10.1%	406,554	75.8%
1986	1,268,142	29.5%	893,952	10.1%	374,196	75.8%
Total	5,392,058	37.7%	3,130,689	10.1%	2,261,369	76.0%

Total number of hearing aid users	4.0 million a/
Total number of users employing ITE aids	2.3 million b/
Estimated number of users employing telecoils	1.5 million c/

a/ SHHH comments, p. 6.
b/ SHHH comments, p. 5.
c/ Computed by staff. (2.3 million ITE aid users x 10.1% + 1.7 million non-ITE aid users x 76%)

Interpretation of the above data varies among the commenters. Our NOI, based on previous available data, stated that the number of hearing aids purchased incorporating the telecoil feature seemed to be declining. SHHH states that the figures show a decline in the retail of telecoil equipped hearing aids. It attributes this reduction to wearers being unfamiliar with that feature of their hearing aids, their refusal to use it or their lack of knowledge of how to use it. HIA also credits the reduction of telecoil equipped hearing aids to the emergence of the in the ear hearing aid model. According to HIA, these units generally are purchased by persons experiencing little difficulty using the telephone. Consequently, they are buying hearing aids without the inductive feature. Accordingly, HIA notes that less than 30% of hearing aid purchasers are buying hearing aids with telecoils, "the necessary other half of the hearing aid compatibility

equation."

MPC maintains that the purchase of hearing aids actually fluctuated from year to year during the 1980-1985 period. This fluctuation reflects, according to MPC, the variation of incidence of severe hearing loss as opposed to a decreasing trend of relying on inductive reception. Only when there is a decrease in the number of severely hearing impaired or a superior alternative coupling will there be a substantial reduction in the number of hearing aids equipped with telecoils, asserts MPC. MPC observes that in the period 1980 - 1986, approximately 2,865,000 telecoil equipped hearing aids were sold. It argues Congress did not predicate its enactment of the Disabled Act on percentages. Congress was concerned with ensuring that people have reasonable access to telephone service. GTE believes the number of telecoil equipped hearing aids is relatively stable and represents those persons having severe or profound hearing loss. Accordingly, they need HAC telephones and GTE thus urges the Commission to recognize their needs.

AT&T, on the other hand, believes MPC's argument does not rebut the inferences the statistics suggest. It explains that it is unlikely that the number of hearing impaired will rise and fall from year to year. The suitability of ITE models for the moderately hearing impaired might explain the declining trend in the sale of telecoil equipped hearing aids.

We conclude in the Notice that a telecoil compatibility requirement would not significantly improve the ability of the hearing impaired to access telecommunications services, for a variety of reasons. First, the number of telecoil hearing aids in use is declining. The record indicates that the percentage of telecoil hearing aids sold per year has dropped from 48.5 percent to 29.5 percent in the past six years. Second, portable devices are available at relatively low cost which attach to any phone and convert it to a telecoil compatible phone. The record indicated that 60 to 80 percent of telephones currently supplied are telecoil compatible. Third, neither the record of this proceeding nor the Commission's complaint file document significant problems with non-compatible telephones. Of the 28,000 complaints received by the Commission since 1984, only 2 have concerned hearing aid compatibility.

Universal HAC would impose some additional costs on users. The cost of making the remaining telephones telecoil compatible ranged from $1.50 to $4.50 per phone. Mandating technical standards for compatibility with a declining technology could impair the development of new network technologies such as fiber optics. Thus, we conclude that the action taken by Congress in the Disability Act correctly resolved this question and no further modification is necessary.

TDD Relay System

The third action taken by the Commission in the Notice is to target certain issues for further proceedings. Foremost among these is the issue

of an interstate TDD14 relay system. As you may be aware, a TDD relay system enables a TDD user to communicate with non-TDD users by calling a translator who uses both a TDD and a regular telephone to pass messages between the parties on a real-time basis.

Some states have established such systems for intrastate calling. California provides a system, and, according to the comments, Illinois' and New York's systems should be functional shortly. With the exception of the New York proposal, these programs limit the users to intrastate calls. New York plans to permit interstate calls over its system so long as one end of the conversation is in New York. In addition to these relay systems, there are many private organizations providing manned relay services. To further ease the expense of communicating via these relay systems, some states have ordered carriers providing intrastate toll services within their states to provide such services to TDD users at a discounted rate. On the interstate level, only AT&T offers toll discounts to TDD users. Some of its competitors indicate they would offer discounted rates if they were subsidized, presumably by other ratepayers.

In this proceeding several parties, including EIA and SHHH, argue the Commission should defer the question of an interstate relay system to private organizations for resolution. Others, including MPC, GRI, NARUC and some private citizens, seek Commission action to create an interstate relay system for TDD users. NARUC points out that as many as 15 states have plans for an intrastate TDD relay system. It urges the Commission to develop a federal policy on interstate relay systems to achieve coordination and consistency in the development of intra-and interstate systems.

Several user groups discuss the problems attendant to existing and planned intrastate manned relay systems. They relate that many users are disappointed and do not understand why communication cannot be established with out-of-state locations. Efforts to obtain these services by state commissions and local telephone companies have been met with jursidictional disputes, notes MPC. According to MPC, both parties (state commissions and telephone companies) argue that local public utility commissions do not have authority to order telephone companies to provide interstate relay services. This denial of interstate service has meant many deaf individuals have been denied access to relatives and friends in other states. To remedy the problem, NARUC, in a petition for further inquiry, asks that the Commission (a) establish the committee discussed in its NOI to investigate the implementation of interstate relay systems and (b) issue a further notice of

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14 The term "TDD" generally refers to a typewriter style device equipped with a message display (screen). This device generates from the keyboard a coded signal corresponding to the tyed character. This signal is passed over the telephone network via a voice circuit. Connection to the network generally is implemented through audio coupling via a telephone handset.

inquiry to obtain specific proposal for the committee's evaluation.

With regard to possible technological advances affecting relay systems, AT&T reveals that it and other firms are conducting tests on unmanned relay systems designed to recognize speech and transform it to written form and vice-versa. But it indicates the pace of development does not offer any immediate hope of employing this system soon.

The Architectural and Transportation Barriers Compliance Board states it is an independent federal regulatory agency charged with insuring that certain facilities designed, constructed, altered or leased with federal funds comply with accessibility standards issued under the Architectural Barriers Act of 1968. It states it has sponsored a demonstration, federal government wide TDD relay service since August 1986 that is to expire August 1988. The service is used by federal employees who are TDD users and by others who communicate with those employees, both inside and outside the government. The relay serves approximately 700 persons each month. The board intends to explore the possibility of another organization, either government or nongovernment, administering the relay service as an ongoing activity.

None of the commenters revealed any technological advances likely to have an immediate impact on the way communication services are provided the deaf and speech impaired. Some did note that research is under way to take advantage of research conducted in the computer field to improve the communication ability of the deaf. GTE is also conducting some tests. It is attempting to devise a technique which would allow transmitting American Sign Language using a voice grade line and slow speed video techniques.

The Notice invites interested parties to submit specific proposals for establishing TDD relay systems for interstate calling. Proposed plans should incorporate an economic assessment of the impact such a system would have on ratepayers. The record suggests that potential users of the system will require a subsidy. The economic analysis should discuss the amount of subsidy, the form it should take, and a cost/benefit study showing the number of persons benefitting and the specific ways they will benefit. Suggested rates for use of the system would further assist the assessment of implementing such a system. Potential users supporting implementation of an interstate relay system are invited to also comment on their anticipated use of an interstate system and features they feel are necessary to enhance their access to their community of interest.

We point out in the Notice, however, that any attempt by the Commission to mandate an interstate TDD relay system and establish a funding mechanism for it raises new and novel questions regarding our legal authority.15 After reviewing comments on the issue, we hope to determine

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15 See, e.g., Rural Telephone Coalition v. FCC, No. 84-1110, slip op. at

whether such a system should be established and whether legislation would be required to establish a funding source or to authorize explicitly the use of telephone company funds.

TDD Compatibility

Some commenters raise issues concerning the TDDs that would be incorporated into an interstate relay system. GTE maintains that there is a need to standardize the code for TDD devices. Currently two coding schemes are used by TDD manufacturers, Baudot and ASCII. Baudot is the original format incorporated in TDDs and is the least expensive because the equipment is typically older and less complex than ASCII. ASCII is more widely employed among terminal devices, including TDDs and personal computers. Because of its wide use and the possible enlargement of the community TDD users could access, GTE recommends that the Commission require future TDD units incorporate the ASCII format. Electronic Industries Association (EIA), on the other hand, suggests the issue be directed to a user group such as the Telecommunications for the Deaf, Inc., while SHHH urges the Commission to permit the matter to be resolved on a voluntary basis.

The record shows that a number of telephone companies have available an array of devices specifically designed to assist the deaf in accessing the telephone network. Many states also maintain programs which provide equipment for the disabled at little or no cost to the users. Only AT&T offers discounted interstate toll rates and operator services for TDD users. Its competitors explain they would provide discounted rates for TDD users if they were subsidized in some manner.

More generally, since the development of the basic TDD system 20 years ago ASCII terminal technology and modem technology have advanced significantly to the point where low cost, personal computers with modems (which can serve as ASCII TDDs) are mass produced consumer items which may have lower cost than traditional TDDs. In addition, packet switching technology has also progressed to the point where it may provide long distance connectivity for typing at a signficantly lower cost than MTS. However, no packet switching provider presently offers end to end services that are appropriate for the TDD user. We also note that if the TDD users were to migrate to the more common ASCII technology they would be able to communicate with millions of such terminals in residences and businesses.

We believe the current record must be supplemented with data regarding the technical, economic and regulatory parameters for TDDs to be used in an interstate system. Specific, detailed proposals for an interstate relay system that can be used by all, or most, TDD users, i.e.,

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15-19 (D.C. Cir. Feb. 5, 1988).

users with Baudot or ASCII format units must be developed. The proposals should include technical requirements and should indicate what organization would establish standards. Proposals should be offered on ways to foster Baudot-ASCII compatibility. We specifically seek comment on the feasibility of developing packet switched services based on new or existing packet switched networks that could provide low cost connectivity for Baudot and ASCII TDD users. In addition, commenters are asked to discuss the roles of all the entities anticipated to be a part of rendering the service, including private organizations currently providing service. The roles of interstate carriers in particular should be addressed.

Other Issues

The additional issues targeted by the Notice for further proceedings include 1) whether to require more amplifier handsets, push button technologies, and lower placement for coin and card operated payphones; 2) whether to require TDD's in public places; 3) how to achieve greater dissemination of our rules so that more hearing impaired users will benefit from them; 4) the relationship between telephone access for the hearing impaired and standardization of the quality or performance of hearing aids; and 5) the creation of, and appropriate structure for, a consultative process by which the Commission could obtain on an ongoing basis a consensus judgment on future issues from organizations representing the interests of the hearing impaired community.

Conclusion

As a result of the inquiry it has conducted thus far, and the further proceedings initiated in the Commission's Notice, we believe that we are better able to identify and vindicate the interests of the hearing impaired users of this nation's telecommunications systems. Although it is clear that the disabled do not have the same access to telecommunications equipment and services enjoyed by others in society, identifying effective remedial measures is a difficult matter. Section 610 of the Communications Act and our implementing regulations are an attempt to assist one segment of the disabled -- the hearing impaired. We believe the fairest reading of the Congressional history of Section 610 is that it is a careful balance of a number of competing interests, and that changes in our rules should not be made unless we are confident, on the basis of a careful cost/benefit analysis, that the changes would be effective and efficient.

Upon preliminary analysis, two proposals -- requiring all credit card telephones to be hearing aid compatible and expanding hearing aid compatible workplace telephones to include telephones in common areas the hearing impaired are likely to access in the ordinary course of their employment -- seem to offer benefits that outweigh likely costs. We are unable to make that finding with respect to the other various proposals before us on the basis of the comments filed to date. Therefore, we seek further comment on what additional steps are appropriate.

As is true of many telecommunications issues, the question of ensuring adequate telecommunications services for the hearing impaired requires a delicate weighing of many competing interests. We believe that the decisions reflected in the Disability Act and the Notice strike a reasonable balance between these interests.

Senator INOUYE. Thank you very much, Mr. Brock. And may I now call upon the author of the measure to begin the questioning. Senator Pressler?

Senator PRESSLER. Thank you, Mr. Chairman. Mr. Brock, what percentage of the telephones in use in the United States today are hearing aid-compatible? And is this figure increasing or decreasing?

Mr. BROCK. We have investigated that issue but not been able to come to a definitive conclusion.

The records that we have show that 15 percent of the types of telephones are hearing aid-compatible; that is, of phones registered under our Part 68 rules, 15 percent explicitly comply with compatability requirements.

We estimate that 60 to 80 percent of the telephones in use are hearing aid-compatible, but we have no actual records on that figure.

Senator PRESSLER. Now, you mentioned that telecoil-equipped hearing aids are on the decline as a percentage of all hearing aids.

But the use of hearing aids, particularly among the slightly impaired population, has recently increased dramatically. The severely hearing impaired still rely on telecoil hearing aids. Have their numbers declined?

Mr. BROCK. They have declined slightly. But I certainly agree that telecoils remain necessary that the need for telecoils is unlikely to go away, and that therefore telecoil compatibility remains a substantial issue.

Senator PRESSLER. I do not fully understand your concern about it deterring technological development.

Would the technology provision I described in my statement satisfy your concern over inhibiting new technology?

Mr. BROCK. I do believe that the proposed revised bill is an improvement over the original one, because of the new technological provision and also because it would no longer exempt phones which do not have to be registered under Part 68.

It seems to us, and I agree it is a somewhat close call, that the remaining requirement is still tighter than necessary.

Senator PRESSLER. So would you be in support or opposition to the revised bill?

Mr. BROCK. We are not really in a position of opposition. It is not a case where we say one thing is wrong or is going to create a difficulty.

Our concern is with the balance between the benefits and the costs. In particular, my concern is that a TDD relay system will require a substantial amount of funds.

If we impose costs on other telephone users for the hearing aid compatibility, it might detract from efforts to establish an interstate relay system which appears to us to be a more useful use of those funds to promote telephone allocation by the hearing impaired.

Senator PRESSLER. Thank you. I may have additional questions for the record. I thank you very much.

Senator INOUYE. Senator McCain?

Senator MCCAIN. Thank you, Mr. Chairman. And thank you. I would like to thank Senator Inouye for having this hearing on this very important legislation.

I am convinced, as you are, that Americans with hearing disabilities are not given the access provided for in legislation enacted by this Congress as far back as far back as 1934. And I think that this legislation is an important step.

I also know you are aware, Mr. Chairman, that I just yesterday proposed legislation concerning the TDDs, and that is why I was very interested in Mr. Brock's comments. And I am pleased that the Chairman is a co-sponsor of that legislation, Mr. Brock, along with the Chairman of the full Committee and the ranking minority Members.

I was interested, first of all, to hear your comment that the majority of your letters and complaints center around the TDDs or lack thereof. Is that a correct assessment of what you had to say?

Mr. BROCK. Yes, sir. That is correct.

Senator MCCAIN. And I noticed in your statement on page 14 you said, the Architectural and Transportation Barriers Compliance Board has had a demonstration Federal government-wide TDD relay service since August, 1986 that is to expire in August of 1988.

It is used by Federal employees for TDD users and by others who communicate with those employees, both inside and outside the government. The relay serves approximately 700 persons each month.

I am sure you are aware, as I am, that the Federal government is the largest employer of Americans with hearing disabilities, some 15,000. It seems to me that 700 people a month is not adequate in any respect.

And the experience that our friends and users have had, is that almost every time they call it is busy, obviously because of the tremendous demand. And it simply is not fulfilling the need as exists today.

Would you agree with that?

Mr. BROCK. Yes, sir. I would agree with that. I believe that the current system has been described as a pilot system or a test project rather than a true system for government-wide usage.

Senator MCCAIN. But would you not agree that without a system of this nature government-wide, it would be enormously difficult, if not impossible, for Americans with hearing disabilities, particularly those with severe disabilities, to communicate with the government agencies that are there to represent them?

Suppose a person who is deaf has a problem with his Social Security check? It seems to me he cannot pick up the phone and call that agency. They have to either have someone do it for them or go down and visit the agency, perhaps with someone who is capable, has sign language capability.

Would you agree that that is an accurate depiction of the situation today?

Mr. BROCK. Yes, sir. I do believe that is correct. Some of the comments, informal comments and letters we have received would bear that out, particularly with respect to difficulties people encounter when they have to transact sensitive personal business.

I recall one letter from a lady who was especially concerned when her husband died and she had to use TDD relay system employees to translate for her many things that she considered quite sensitive.

Senator MCCAIN. You mentioned that you feel that there is a requirement for an interstate system. Do you think that requires Federal legislation in order to achieve that?

Mr. BROCK. Senator, it may require Federal legislation. It is an uncertain legal situation right now.

There is a recent court case on point that appears to question our legal authority to implement subsidy systems for rural and high-cost areas. In that case, the court upheld us but noted that our authority to subsidize the charges to one class of users with higher charges to another is limited.

Because of that, we are exploring the question of whether we could set up an interstae TDD relay system on our existing statutory authority. I would have to say at this moment we consider our legal position to be uncertain.

Senator MCCAIN. In the legislation I proposed, among other things, would require that a telecommunications system for the hearing aid-impaired to established with and within the Federal government.

Obviously, you are concerned about the cost of such an enterprise. Is that correct?

Mr. BROCK. I am concerned in general about the costs of any enterprise. I am familiar with your legislation, however, and it appears to me to be a very useful way to proceed.

Senator MCCAIN. Thank you. I would like to provide you with copies of this legislation, which I think you may have heard about already, and would appreciate very much your comments. We would be more than happy to change it, and perfect it in any way.

But I am extremely pleased to see that there is a recognition on your part and on that of the FCC of the really urgent need to provide our hearing impaired citizens with the capability to communicate with their Federal government, indeed throughout our society.

And I think your statement is excellent and I look forward to working with you so we can achieve that goal.

Mr. BROCK. Thank you, Senator.

Senator MCCAIN. Thank you, Mr. Chairman.

Senator INOUYE. Thank you very much, Senator McCain. Listening to your testimony and reading your prepared text, together with the provisions of the law, the 1982 act and rulings issued by your office, at this moment the following must be hearing aid-compatible.

Coin-operated telephones, public telephones, emergency telephones such as those on highways, in railroad, automobile, and subway tunnels, in elevators, in hospitals, and in convalescent homes.

It would also include credit card telephones unless a coin-operated telephone is nearby, and the telephone at a hearing impaired person's work station, and 10 percent of the telephones in a motel or hotel.

And last week you proposed to expand this list to include all credit card telephones and telephones located in common areas in a hearing impaired employee's work place. And then you have concluded that no further legislation is necessary at this time.

And in response to questioning, you have indicated that your decision was based upon a balance between cost and need. Is that correct?

Mr. BROCK. Yes, sir.

Senator INOUYE. Then I would assume that you would know what the costs are. What are the costs involved?

Mr. BROCK. There is obviously, on this sort of issue,there is considerable uncertainty about the total costs.

One estimate in the record was that universal hearing aid compatibility would add $12 to $24 million per year to the current costs of telephones including the ones that are currently compatible.

Senator INOUYE. $12 billion?

Mr. BROCK. $12 million.

Senator INOUYE. $12 million.

Mr. BROCK. Yes.

Senator INOUYE. For the Nation?

Mr. BROCK. Yes.

Senator INOUYE. And that is considered very expensive?

Mr. BROCK. No, sir. It is not considered very expensive. But the corresponding side of the equation was that we saw relatively little evidence of the benefits that would result from having hearing aid-compatible phones in private residences or private work stations of non-hearing impaired persons. I certainly agree that the estimate in our record is not a high cost.

Senator INOUYE. Now, you have indicated that obviously, that is your word, we are not able to come up with the correct figures because of the considerable uncertainty of costs.

But you have made decisions based on considerable uncertainty, have you not?

Mr. BROCK. Yes, sir.

Senator INOUYE. Now, based upon this considerable uncertainty, how did you reach this figure, 10 percent of telephones in motels and hotels?

Mr. BROCK. The current requirement is that a hotel or motel provide hearing aid compatibility for those who need it. The 10 percent rule was reached as an estimate of the number of phones that would be required to ensure that the telecommunications needs of hearing impaired quests will be fully addressed.

Hotels and motels are also permitted to have portable translation devices to offer to hearing impaired customers who may need them.

Senator INOUYE. I am certain you are aware that out of all the peoples on this planet, Americans are the most mobile, and they are moving around, hotels are always crowded, motels are crowded also.

Under the present ruling, are you telling me that every hearing impaired person can be assured of having in his room a special telephone?

Mr. BROCK. That is the expectation, yes sir.

Senator INOUYE. Have you received complaints?

Mr. BROCK. No, we have not.

Senator INOUYE. Besides the $12 million cost, are there any other costs that would show how terrible it is?

Mr. BROCK. Let me emphasize that I do not believe it is terrible. I do not see very large costs from this, especially with, as Senator Pressler has suggested, an opportunity for new technology to be introduced. Our concern is simply whether there is a real demand for that particular kind of compatibility. Any imposition of a specific manufacturing requirement does somewhat limit flexibility in the future.

Senator INOUYE. How many telephones are now operating in the United States?

Mr. BROCK. We do not have an exact number, since those have been deregulated. I would estimate on the order of 200 million or more.

Senator INOUYE. So the cost would be less than 10 cents a piece.

Mr. BROCK. Spread over the telephones. If you are losing that on my estimates, my original estimate was $12 million to $24 million per year.

Senator INOUYE. Make it 20 cents.

Mr. BROCK. It would certainly be a modest cost per telephone.

Senator INOUYE. And you do not think that the industry can bear that cost? Or the users or the people or the taxpayers?

Mr. BROCK. Certainly, Mr. Chairman. The industry or the users or the taxpayers can bear that cost, so long as there is some appropriate benefit coming from that.

Senator INOUYE. Any further questions? I thank you very much, Mr. Brock. You have been very helpful.

Mr. BROCK. Thank you, sir.

Senator INOUYE. Now may I call upon Mr. Peter Bennett, Staff Vice President, Information and Telecommunications Technology Group of the Electronic Industries Association, Mr. David Saks, Director of the Organization for the Use of the Telephone, Ms. Karen Peltz Strauss, Supervising Attorney of the National Center for Law and the Deaf of Gallaudet University, and Mr. Freeman Robinson, President of GTE Consumer Communications Products Corporation.

May the record show that our first translator was Mr. Lester Belt and the present translator is Ms. Janice Nishimura.

Senator MCCAIN. She did a wonderful job for Senator Dole the other day when he made his announcement.

Senator INOUYE. May I call upon Mr. Bennett?

STATEMENT OF PETER H. BENNETT, STAFF VICE PRESIDENT, INFORMATION AND TELECOMMUNICATIONS TECHNOLOGY GROUP, ELECTRONIC INDUSTRIES ASSOCIATION

Mr. BENNETT. Mr. Chairman, my name is Peter Bennett. I am here on behalf of those members of the Electronic Industries Association who manufacture telephone devices.

My statement represents a consensus of members interested in and affected by this legislation. Individual companies may hold differing positions. I have supplied the Committee with written comments and ask that they be made part of the record.

Senator INOUYE. All the prepared statements will be made part of the record.

Mr. BENNETT. Thank you, sir. In 1982, at the request of your Committee, we suggested elements of legislation which could provide a solution to the needs of hearing aid wearers.

At the Committee's further request, we worked to bring together the broad-based coalition of manufacturers, telephone carriers, user groups, and other interested parties who supported the passage of S. 2355, the Telecommunications for the Handicapped Act of 1982, which became Public Law 97-410.

Senator Goldwater wanted that legislation as an alternative to the annual submission beginning in 1979 of bills which demanded that "all telephones be compatible with all hearing aids, everywhere." To bring forth that legislation and that coalition, many promises were made and many compromises were struck.

We the industry are pledged to the continuing availability of compatible telephones for those hearing aid wearers who depend upon their telecoil as the only means of using the telephone.

We support the placement of hearing aid-compatible telephones in locations essential or frequently needed by this special class of Americans. We accept the cost burden borne by the hearing public in providing compatible telephones in those locations.

We applaud the proposal of the FCC, the government's expert agency, to redefine as necessary the terms "essential" and "frequently needed" in the present rules to avoid within the limits of their handicap, discrimination against those persons in work place situations.

There is perhaps no better evidence of the sincerity of industry's pledge than the business decisions of GTE and AT&T made in the free market to make their complete lines of corded telephones compatible.

We also concur with the finding of the FCC that new legislation is not needed. The benefit from extending mandatory compatibility all the way into the private homes of Americans is outweighed by the cost to individual consumers in freedom of choice and in higher prices.

It must be clearly understood that the other side of the hearing aid compatibility equation is the presence of a small part called a telecoil. And I have one here. In the hearing aid, without that part, no measure of compatibility in the telephones can be of any help.

In an expanding market for hearing aids, fewer than three out of 10 hearing aids being purchased today contain telecoils.

1983 was the first year in which hearing aid sales exceeded one million units. Yet as sales grew to 1.4 million by 1987, the number of units sold with telecoils dropped by 20 percent. The numbers do not tell the whole story.

Not all who have hearing aids wear them. Not all wearers who have telecoils use them. Among the users who are dependent upon telecoils a large proportion are fitted with two hearing aids and thus two telecoils.

Mr. Chairman, these factors indicate that fewer than one million hearing aid wearers would benefit in any way at all from S. 314. In contrast, 244 million American consumers would pay for these benefits in the form of added costs for the 22 million consumer type telephones entering the market each year.

Legislation is not the only approach to situations of incompatibility. The hearing aid wearer who is totally dependent on the telecoil can obtain today a device which would make his aid work with all telephones everywhere. This device is available and it retails for less than $25.

We believe that reasoned adjustments in the FCC's implementation of the present law in conjunction with self-help devices such as the portable amplifier are a more appropriate response to user needs than is the approach taken by S. 314.

Thank you, Mr. Chairman. I would be happy to answer any questions.

[The statement follows:]

STATEMENT OF PETER H. BENNETT ON BEHALF OF THE USER PREMISES EQUIPMENT DIVISION OF THE ELECTRONIC INDUSTRIES ASSOCIATION

Mr. Chairman, I am Peter H. Bennett, Staff Vice-President in the Information and Telecommunications Technologies Group of the Electronic Industries Association. The Electronic Industries Association, or EIA, is the full service national trade association representing manufacturers of electronic components, equipment and systems. Within EIA, our group represents over 80 U.S.-based companies who account for roughly 85 percent of U.S. production of telecommunications equipment. I am here today on behalf of our User Premises Equipment Division, which serves those members who manufacture telephone terminal devices, including corded telephone handsets and products which incorporate such handsets. The position I present here today represents a consensus of our members interested in and affected by this legislation. Individual member companies may hold positions which differ wholly or in part from the consensus.

We are thoroughly familiar with the issues and arguments addressed in S. 314, having been actively involved with every piece of such legislation since Mr. Long of Maryland introduced H.R. 5022 in 1979. Since then, there have been six more such bills in the House, and four in the Senate. In 1981, we worked with this committee as they sought an approach superior to that taken by Mr Long in H.R. 5022 and Sen. Mathias in S.604. The result was S.2355, introduced by Senators Goldwater, Reigle, and Cannon. We led the effort to bring unified industry support behind that bill, which ultimately became P.L. 97-410, the "Telecommunications for the Disabled Act of 1982". One of the requirements of that far-reaching law was that the Federal Communications Commission establish technical standards for magnetic compatibility of telephones with those hearing aids which are equipped for magnetic coupling with telephones. Our engineering committee TR-41, working in consultation with the manufacturers of hearing aids, was able to provide—at no cost to the government—EIA standard RS-504, which establishes that technical standard at a level which emulates the magnetic characteristics of handsets specified by hearing aid users as meeting their needs.

In the same time period, we have worked with hearing and speech-impaired user groups and the manufacturers of Telephone Devices for The Deaf (TDD) in an effort to establish performance and compatibility standards for those devices, which provide teleprinter-like printed or visual communications for those who cannot use the telephone in its conventional, aural mode. Elsewhere in EIA, we have recently formed

an Assistive Devices Division, as a focal point for manufacturers of electronic devices specially designed for the needs of the handicapped. Formed only six months ago, this new division of EIA already has 20 member companies. Finally, our Electronic Industries Foundation has for years concerned itself with the needs of the handicapped, and with creating job opportunities in the electronics industry for handicapped workers.

THE INDUSTRY RECOGNIZES THE NEED FOR COMPATIBLE TELEPHONES, AND IS PLEDGED TO SUPPLY THEM

The industry I represent fully understands that there are some hearing-impaired persons who, using current hearing-aid technology, cannot enjoy beneficial use of telephones unless there is a magnetic field for coupling to telecoils in their hearing aids. In our efforts to bring forth the 1982 Act, we pledged to keep such telephones available to those who need them as long as they need them. We have kept our pledge, and today more telephones, in more locations, are compatible than ever before. This increase has come about as a result of business decisions, made in an open and free market. There is perhaps no more dramatic example of this sense of commitment than the decisions of GTE and ATT to make their complete lines of corded telephones hearing aid compatible. At the same time, however, we have fought to maintain the freedom of informed, intelligent consumers to purchase telephones of their choice without undue governmental intervention. When S. 2355 was being written, we suggested the inclusion of a provision that retail telephone packaging provide consumer information regarding the compatibility of the product contained therein. That provision became part of the law, and today any consumer seeking to purchase a compatible telephone for his own use, or for the convenience of his family or guests, can do so with confidence.

WE BELIEVE THAT THE 1982 ACT CAN MEET THE NEEDS OF THOSE NEEDING COMPATIBLE TELEPHONES, WHILE STILL PROTECTING THE RIGHT OF CHOICE FOR OTHER AMERICANS

As implemented by the FCC and enforced by the states, the present law adequately provides for telecoil users in the use of public telephones, emergency telephones, and in places of public accommodation such as hotels, stores, hospitals, and the like. With deregulation, the user is responsible for his own residential equipment, and is free to purchase or lease compatible equipment for his home. Although the present law also made provisions for the workplace, we have heard claims that telecoil users are still disadvantaged in some workplace situations. If such problems do exist, then the FCC can and should revisit and fine tune the existing rules, better to provide for the needs of the handicapped. These improvements can be made where needed, while still preserving freedom of choice for consumers in their own homes.

DOES THIS LEGISLATION RESPOND TO AN EMERGENCY?

We think not. The issue of hearing aid compatibility of telephone handsets arose as a service problem in 1964, when the Bell System began using a new type of receiver in its dial-in-handset models. It became a legislative issue in the 1970s, when the Organization for the Use of the Telephone (OUT) became active. Since then, at least ten bills similar in intent to S. 314 have been submitted to the Congress. Each such bill has been found lacking, and has been rejected by your colleagues and predecessors.

It is interesting to note that in 1966, the Bell System notified the hearing aid industry regarding the incompatibility of its new-style receivers with inductive pickup hearing aids. This was more than two years before the FCC's Carterphone decision made use of the telecoil legal. Thus, there has never been a time when a hearing aid purchaser could legitimately have been told that the "T-switch" or telecoil could or should be depended upon for universal telephone use. There has never been a time when all telephones were compatible. Indeed, in those days many users in the territories of the General Telephone Companies knew nothing of telecoils, T-switches, or the compatibility problem, because their phones had never provided a magnetic field.

Credit must be given to OUT for bringing the incompatibility question to the attention of the telephone industry. Not content, however, OUT soon began to demand that "All telephones must work with all hearing aids—everywhere.", a condition which had never existed in the United States, much less everywhere. OUT later modified its battle cry when it was pointed out that relatively few hearing aids possessed the necessary component needed to benefit from the change they demanded.

In the meanwhile, others were taking a pragmatic, rather than legislative approach. Beginning in 1974, the telephone companies began changing over all coin telephones to compatible (blue grommet) handsets, a task that was essentially completed by 1980, two years before the present law was enacted. Bell Labs designed an adapter which could be used by telecoil-equipped hearing aid users when they encountered an incompatible phone, anywhere. The design was offered to the hearing aid industry, which refused to manufacture it. The 100A coupler was subsequently manufactured and sold at cost by the Bell System and the independent telephone companies, who encountered little or no demand for the device. Hyman Goldberg invented and applied for a patent on a hearing aid telecoil arrangement that worked with all types of telephone handsets, but again users and the industry were apparently uninterested. Meanwhile, OUT continued to demand that all telephones be changed to meet their view.

HOW MANY TELEPHONES ARE INVOLVED?

The Bureau of the Census reports that there are approximately 76 telephones per 100 residents in the U.S. With the population estimate now at 244.4 million, that amounts to about 186 million telephones. There is no practical way of determining how many of those would be classifiable as compatible. Current informed estimates are that between 75% and 85% are presently compatible, including all those in the essential and frequently needed category.

HOW MANY HEARING AIDS ARE INVOLVED?

We have tracked the statistics provided by the Hearing Industries Association (HIA) since 1980. These show an expanding market for hearing aids, probably attributable both to the graying of America and to the increased availability of hearing aids which are more cosmetically appealing. During that time, the percentage of hearing aids sold which contain telecoils has fallen from over 54% to under 26%. This means that today, fewer than three out of ten hearing aids being purchased by hearing impaired persons contain the feature which would benefit from the telephone design change mandated by S. 314. This trend is not just magic with numbers. 1983 was a landmark year in the hearing aid business in America, the first in which sales exceeded one million units. Yet, while the number of hearing aids sold grew from 1 million in 1983 to 1.4 million in 1987, the number of units sold with telecoils dropped from 448 thousand to 359 thousand in the same period, a decrease of 20%.

Nor do sheer numbers tell the whole story. Not all owners who have hearing aids wear them. Not all wearers who have telecoils use them. Among users who are dependent upon telecoils, a large proportion are fitted with two hearing aids and thus two telecoils. Self Help for Hard of Hearing People, Inc., (SHHH) places this latter category at over 34% of sales. They also place the percentage of people who simply don't use their hearing aids at somewhere over 4%. Finally, in an interview survey conducted in 1976 in over 7000 homes in Toronto, Montreal, and Ottawa, Canadian Facts Inc. found that only 14% of the hearing aid wearers encountered used a telecoil on the telephone, since most of them used the telephone without the hearing aid. Of those who used their hearing aids with the telephone, only 40% used a telecoil. Of those who used the hearing aid with the telephone and had a telecoil, about 60% used it.

Chaining all these numbers does not lead to a statistically precise result, but does produce a meaningful indication:

1987 sales with telecoil 359,300 less 4% who do not use aid —14,372 equals 344,928 less 1/2 of 34% double fitted —58,638 equals 286,290 less 40% don't use telecoil—114516 equalsc Net Users 171,774

Since the average service life of a hearing aid (before it is replaced or the owner ceases using it) is between three and five years, these numbers indicate that there may be only between a half-million and one million hearing aid wearers who would benefit in any way from the change of telephone design which would be mandated by S. 314. (The applicability of the Canadian Facts finding has been questioned in today's market; even without it, the beneficiary group still does not exceed 1.5 million.)

IS THE O.U.T. APPROACH THE PROPER ONE?

It has been estimated that provision of hearing aid compatibility adds between twenty-five cents and one dollar to the cost of a telephone. Telephones destined for consumer residential use pass through consumer distribution channels, in which this differential may be doubled or tripled, to between fifty cents and three dollars. EIA's

Consumer Electronics Group estimates that 27 million consumer-use telephones enter the market each year. It is the consumers who buy these telephones for their private use in their homes who will carry the greatest cost burden imposed by S. 314. It is those same consumers, using these telephones in their private homes, who will receive the least benefit from this legislation.

We note that on January 20 of this year, Self Help for Hard of Hearing People, Inc. advised the House Subcommittee that they do not support H.R.2213, the companion bill to S. 314. SHHH is a 25,000-member national association of hard of hearing people, most of whom own hearing aids.

We agree with SHHH on many points, including the sincere belief that at some point, hearing-impaired telephone users must

assume a role in serving their own needs.

WHAT APPROACH DO WE ADVOCATE?

Public Law 97-410 enjoyed broad support when it was enacted, and, with the possible exception of OUT, continues to enjoy wide support. The FCC's current docket reexamining its implementation of the law drew many useful suggestions. Although we will not take a position on their Notice of Proposed Rulemaking until the full text has been studied, their approach of adjusting their present rules in response to proven need is fully in keeping with our beliefs. We believe that that law, adjusted as may be appropriate, protects the telecoil user in almost every reasonable situation. It can never provide 100% coverage, however. Those final few percentage points can be covered either by the users themselves, or by a new law such as S. 314, which would require that all telephones provide a magnetic field, everywhere, forever.

Just as those of us who drive automobiles carry tools and spare tires in case of an emergency, and just as those of us who wear hearing aids carry spare batteries, the prudent hearing aid wearer who is totally dependent on the telecoil can today buy and carry a device which makes his aid work with all telephones, everywhere. The device is available, through retail channels, and can be purchased for less than $25. Sold by AT&T as a "Portable Telephone Amplifier", it is the more reliable, less expensive, better performing grandchild of the 100A Coupler. With this inexpensive device, any telecoil user can use his coil with any telephone. For the users of certain types of hearing aid which have only a weak telecoil, it amplifies the magnetic field to a useable level. For the hearing impaired person who prefers to use an amplified handset instead of a hearing aid, it makes every telephone an amplified handset. For the hearing person who encounters low transmission on some long-distance connections, it makes the difference between hearing well or sharing the frustrations of the hearing impaired.

We believe that devices, such as the portable amplifier, provided and used by the hearing impaired according to their own need, are a more appropriate response to the few situations of incompatibility than is the approach taken by S. 314.

Senator INOUYE. Thank you very much, Mr. Bennett. We will begin our questioning after the panel has presented its statements.

May I now call on Mr. Saks?

STATEMENT OF DAVID SAKS, DIRECTOR, ORGANIZATION FOR USE OF THE TELEPHONE

Mr. SAKS. Mr. Chairman, Members of the subcommittee, good morning.

My name is David Saks. I thank you for the opportunity to appear before you and present the views of the Organization for Use of the Telephone, better known by our initials as OUT, on legislation which, if enacted in its original version, will bring immersarable benefits to the three million plus severely hearing impaired people who use telecoil-equipped hearing aids and inductive technology for communicating by telephone.

OUT is an all-volunteer, non-profit national advocacy organization working on behalf of people with hearing impairments. With your permission, Mr. Chairman, we would like to present our written testimony for the record, and then proceed with brief oral testimony.

Senator INOUYE. Please proceed.

Mr. SAKS. OUT has energetically supported S. 314 in the original version introduced by Senator Pressler.

Senator Pressler has made us aware this morning of discussions which will lead to exemptions from the universal requirement of the original language. Universal telephone accessibility for hearing impaired people remains his goal and the goal of his legislation.

We, or I, find it difficult to reconcile universal with exemptions from universal. I find it difficult to reconcile the goal of universality with exemptions from the goal of universality.

Senator Pressler has done a great deal to help hearing impaired people gain equal access to telephone communication, and we are grateful to him. Senator Pressler's dedication to improving telephone communication for hearing impaired people is outstanding.

He has tried to require that telephones be usable by hearing impaired people, and we will remain grateful to him. We recognize that Senator Pressler has obligations to constituents that we, as an advocacy organization, do not share.

Our obligation is only to the well-being of people with hearing impairments. We must object to granting to the FCC the authority under any circumstances to set aside hearing impaired people as the only segment of our society who are denied access to a new telephone technology.

The proposed exemption of cordless phones for three years, refurbished phones forever, speaker phones, even though they have handsets, and new technologies, if accepted, would virtually nullify the original Pressler concept and destroy this opportunity to take an important step toward equality in the use of the national telephone network.

Hearing impaired people have been the beneficiaries of new technology and new medical science throughout the ages. If hearing impaired people had been excluded from new developments, as is now proposed, we still would be using those cornucopia-shaped horns to amplify sound.

Even when new technologies have rigidly limited uses at the beginning, such as certain space applications, they may later be adapted for widespread general benefit.

Depending on the views of the FCC at a particular time, it may be relatively easy to establish the infeasible standard of the proposed exemption. It is unfair to entrust the fates of so many severely hearing impaired people to a commission, the makeup and orientation of which is shrouded in the unknown future.

We may not have another opportunity to address you. After this last chance to express our views, the exemptions will be introduced.

Any reference to an exemption of new telephone technology should be omitted from the legislation before you. It is premature and should be left for the future to resolve.

A great merit of our consumer-dominated society, with its relative opulence, is the ability to spread the availability of new and improved products to a great many people.

We implore you, Mr. Chairman and Members of the subcommittee, do not exclude severely hearing impaired people from this great American tradition. Make it, keep it open to all.

Our fate is in your hands, where it belongs. Do not shift your privilege and responsibility to the hands of a transitory regulatory agency. Thank you, sir.

[The statement follows:]

STATEMENT OF THE ORGANIZATION FOR USE OF THE TELEPHONE, INC. (OUT)

Thank you, Mr. Chairman, for affording us this opportunity to present our views on this vital legislation.

The Organization for Use of the Telephone (OUT) is an all-volunteer non-profit national advocacy organization working on behalf of persons with hearing impairments. Our primary objective is full and unencumbered access to all telephones—everywhere. We have pursued this ultimate goal by seeking staged improvments in access to the national telephone network, utilizing direct negotiation with telephone companies, dissemination of information to the general public, and appealing for legislative remedy (see attachment A, item 9).

The enactment of S 314, in its language when introduced, would be a giant leap forward for severely hearing-impaired persons who use telecoil-equipped hearing aids (see attachment A). It would bring access to all telephones marketed in the United States after its effective date.

As you so well know, Mr. Chairman, severely hearing-impaired people, spearheaded by OUT, have struggled long and diligently for the right to hear over all telephones, including those supplied by employers and places of public accommodation. For more than 200 years, they have enjoyed the right to speak—they are still battling for the right to hear.

STATEMENT OF THE CASE

Heretofore, legislative efforts to improve access to telecommunications for severely hearing-impaired people have been confronted by a united front of opposition from the telephone industry. We are happy to report that this is no longer the case. In comments filed with the Federal Communications Commission (FCC) in June, 1987, several companies diverged from previous industry positions: United Telephone System Companies (UTS) said, "UTS does not oppose requiring that all telephones manufactured after a certain date be hearino aid compatible. In fact, UTS companies have been purchasing and using only hearing aid compatible telephones for the past three years." (UTS Comments, page 3) Ameritech, in its FCC filing, commented, "None of the Ameritech Operating Companies anticipates that such a rule [mandated telephone/hearing aid compatibility] would impede the development or growth of their networks...." (Ameritech Comments, pages 2,3) General Telephone (GTE) told the FCC, "Thus, GTE supports the FCC s proposal to move towards a universal [compatibility] rule." (GTE Comments, page ii) At page 3, GTE added, "GTE would have little problem with a universal HAC [hearing aid compatibility] requirement" and at page 10, [T]here is no technical basis to avoiding a universal HAC requirement now." (Emphasis added)

These statements reflect welcome and constructive changes in earlier industry Congressional testimony and FCC comments. Unfortunately, the FCC is restrained by present law from instituting universal telephone/hearing aid compatibility. The

Telecommunications for the Disabled Act of 1982 (the A) is the only law relating to the use of telephones by hearing-impaired and other disabled people. It creates a category of telephones known as "essential telephones" and requires that they be hearing aid-compatible (HAC). Subsection (b) of the Act states, "For purposes of this subsection, the term 'essential telephones means only coin-operated telephones, telephones provided for emergency use, and other telephones frequently needed for use by persons using such hearing aids."

The Legislative Report on the Act elaborates on this limited intent in these terms, "The reported bill does not require all telephones to be compatible with hearing aids....The legislation focuses on those essential telephones to which the hearing impaired must have access if they are to function effectively in modern society),. Companies are free to manufacture and to market non-compatible telephones...." (House Report 97-888, page 9)

The FCC has applied a strict interpretation to this language, and continues to do so. As recently as May 15, 1987, its Notice of Inquiry in CC Docket 87-124 quoted the above excerpt and commented, "This rule takes cognizance of the Congressional intent to allow the continued manufacture and sale of non-compatible telephones...."

Unfortunately, hearing aid telecoil users cannot "function effectively in modern society" if their access to telephones is restricted to "essential" phones and those which they personally choose. Present law and regulations are unduly restrictive on persons who are confined in hospitals, health care facilities, prisons, etc. (47 C.F.R. 68.112(b)(3)). These persons, having had no voice in choosing the phones that they must use, are entitled to HAC telephones only for emergency use. This says to hearing-impaired persons, in effect, "You are not entitled to phone your doctor, your business associates, your family members or simply enjoy a phone conversation with a friend—these privileges are reserved for first class, non-impaired persons." With regard to newly installed telephones, S 314 would correct this deplorable situation.

Present law and regulations require all coin-operated phones to be HAC. They fail to require all of the fastest growing type of payphones, those which operate by credit cards, to be HAC (47 C.F.R. 68.112(c)(1). With regard to newly marketed cardphones, S 314 would reverse this unreasonable discrepancy.

Present law and regulations limit the reouirement for HAC telephones at the workplace to an employee s single worksite. There is no provision to assure the employee of a usable phone at other locations within the workplace (47 C.F.R. 68.112(c)(2). This limitation has caused widespread hardship. With regard to newly installed business systems, S 314 would relieve this unnecessary strain on job security.

Present law and regulations fail to assure hearing aid telecoil users who travel, attend conventions, take vacations, are traveling salespeople, etc. that a usable phone will be included in the price of hotel or motel room rental (47 C.F.R. 68.112(c)(4). This further contributes to the isolation and withdrawal that characterizes the lives of severely hearing-impaired people. With regard to newly installed hotel and motel phones, S 314 will bring self-assurance, comfortable and safe travel, and equality of service to these people.

NEW TYPES OF HEARING AIDS

Much has been made of the total annual increase in hearing aid sales without a corresponding increase in the sale of telecoil-equipped aids. This has been interpreted in some quarters as "proving" that the near future will bring the demise of inductive reception. These number-manipulators ignore the fact that the increased sale of aids has been almost entirely in smaller in-the ear (ITE) aids which are fit to persons with mild or moderate hearing deficiencies. Behind-the-ear (BTE) aids, which are typically fit to persons with severe or profound hearing impairments, continue to be sold in substantial numbers. These severely or profoundly impaired persons benefit from inductive reception and it is they who are the intended beneficiaries of S 314 (see Attachment A, item 6).

The great hearing aid phenomenon of this decade is the trend toward seeking earlier help, before the loss reaches severe proportions. This trend was sparked by the publicity which attended the fitting of President Reagan with tiny aids which fit within the ear canal—and the success of the industrry in exploiting this publicity with aids which they advertised as "the Presidential" and "the President's choice" and similar

references (see attachment C). Sales promotions featured "cosmetic appeal" and "camouflage" in loud headlines, performance and reliability were relegated to whispering small type. The increase in overall hearing aid sales reflects this trend, not a decrease in the use of telecoil-equipped BTE aids.

The Hearing Industries Association, national trade association of hearing aid and component manufacturers, has reported that more than 3,000,000 telecoil-equipped aids were sold during the years 1980 through 1987. Considering that these were the years of the great upsurge in ITE sales, it seems that reports of the imminent demise of inductive reception are a bit premature. It also seems clear that the annual fluctuations in sales of telecoil-equipped aids reflects the incidence of severe hearing loss rather than an industry sales trend.

EXTERNAL ADAPTER/COUPLERS

For some years, external devices have been marketed which convert acoustic signals to magnetic signals, thus enabling hearing aid incompatible telephones to be used with hearing aid telecoils. In considering the potential benefits to be derived from these devices and their history of poor performance or non-performance, and the lack of interest in them by hearing aid users, Congress designed the Act to provide that "internal" compatibility must be present in order for the phone to be HAC. Subsection (b) of the Act provides, in part, "The Commission shall require that essential telephones provide internal means for effective use with hearing aids that are specially designed for telephone use."

The substitution of external adapter/couplers for internal means of achieving compatibility would violate subsection (b) of the Act and reverse a Congressional decision which received serious consideration and was the subject of extensive discussion. Adapter/couplers are marketed at retail prices from $89.95 to $24.95—an added expense to the burdensome costs of hearing aids, repairs, batteries and professional services. This would be an unnecessary expense in view of strong evidence that HAC phones do not involve extra costs to manufacturers. Adapter/couplers also use batteries and require maintenance. The time consumed in attaching an adapter/coupler to the handset will cause the loss of some incoming calls, and could be especially damaging if performed in the presence of an employer or supervisor. The device will be impossible to attach for elderly infirm persons, very young children and individuals who have lost hand dexterity.

Adapter/couplers have never received aggressive marketing. AT&T, whose new device is a dual-function adapter/coupler and amplifier, advertises the amplifier function and all but ignores the coupling function (see Attachment D). Similar ads have appeared in various media, always describing the amplifier in detail, sometimes referring to the device as "compatible with inductively coupled hearing aids"—a meaningless phrase which doesn't begin to explain the device's capability with reqard to converting (or adapting) the acoustic signal to a magnetic signal (see attachment E). It is difficult to escape the conclusion that the amplifier function is intended for strong sale; the inductive coupling capability is intended for "political" purposes, to be trotted out at Congressional hearings and similar occasions and then "buried" until the need arises again to have a substitute for internal telephone/hearing aid compatibility.

NEW TECHNOLOGIES

Parties who are in opposition to S 314 call attention to the advent of digital and fiber optic technologies as another reason that inductive reception will be obsolete in the near future—another smokescreen to obscure the facts and exploit popular lack of information about these potentially beneficial technologies. Neither digital nor fiber optic switching and transmission methods adversely affect inductive reception. The quality of reception at the terminal is determined by the local phone company's copper wires. HAC phones are presently used at both ends of fiber optic transmission lines. When local "last mile" copper lines are converted to fiber optics, compatibility between "present reception" and "future transmission" will remain.

Digital processes are being used in the handsets of some business telephone systems. Because the human ear cannot hear and interpret digital signals, and because the human voice cannot speak "in digital," analog microphones (transmitters) and analog

receivers (ear pieces) must always be used in telephone handsets and telephones must be adequately powered to drive them. Analog- to-digital (A to D) converters are used to interface between the handset's analog microphone and its digital processes. Digital-to-analog (D to A) converters are used as interfaces between the handset's digital functions and its analog receiver.

"ON REQUEST" SERVICE

Upon the request of a customer, a number of telephone companies will modify leased hearing aid-incompatible phones to make them HAC. They feel that this service justifies their continued leasing of telephones which are not HAC. If hearing-impaired persons never left their homes nor strayed from their designated worksites, "on request" service might solve the telephone/hearing aid compatibility problem. Realistically, humans are mobile, both in their employment and in their personal lives—only universal access to all telephones will serve their real-life needs. The Act provided a dramatic first step toward the universality goal—S 314 will add a vital second step (see attachment B).

Advocates hope that, after the enactment of S 314, there will be a smoother, detour-free road to universal access to the national telephone network for severely hearing-impaired people. These high hopes are based on progress that will have been made to that point, brought about by the economics of "economy of scale" which will be brouqht into play by the requirements of the Act and the enhanced benefits which will have been realized by the enactment of S 314, together with increased understandinq and the existing good will among industry entities. We anticipate that the journey to universal service will be completed without the intense struggle of earlier years.

THE COST ISSUE

The cost differential between HAC telephone receivers and receivers which are not HAC has always been of special interest to members of Congress. Through the years we have heard claims of varying costs, ranoino from 25 cents per phone to $50,000,000 per year. None of the figures has been supported by objective industry data, all seem to be numbers pulled from the air to support a particular political position. We have felt that there is little or no difference in the cost of manufacturing the two types of receiver unit (see Attachment A, page two, in dented paragraphs). The Department of Commerce, in a letter, to Senator Pressler wrote, "Telephone sets which are hearing aid compatible are not necessarily any more expensive either to produce, or in retail price, than sets which are not hearing aid compatible." (see attachment F). Then-Representative Timothy Wirth reflected this fact in debate on the House floor, "[A]s to installing any kind of new hearing [aid] compatible phone, there is no greater cost now." Congressman Wirth went on to say, "[T]he cost of a hearing [aid] compatible phone is no different from the cost of a regular telephone." Congressman Wirth based these statements on a great deal of research, including inquiries to a number of telephone manufacturers (please see Congressional Record, December 13, 1982, page H 9484).

In enacting the Act, Congress felt that some degree of cost was justified and charged the FCC with determining that degree. The Legislative Report on the Act uses language such as, "The costs to society of such lost access" and "[T]he Committee also intends a consideration of social costs and benefits indirectly related to telephone use, including the benefits of reduced institutionalization, increased mobility, and enhanced productivity...." (97-888, pages 4 and 12).

Cost no longer is a barrier to requiring all new telephones to be HAC. It has been overtaken by improved technology, increased production—and finally, access to truth.

FREEZING TECHNOLOGY

During consideration of the Act, and since, industry has expressed fear that requiring all new telephones to be HAC would inhibit and retard future technology. Hearing-impaired consumers have an equally great stake in technological improvements.

The Act provides adequate safeguard against this eventuality. It need not be addressed again in S 314. Section 610(e) of the Act states, "The Commission shall ensure that regulations adopted to implement this Section encourage the use of

currently available technology and do not discourage or impair the development of improved technology." Congress went on in its Legislative Report to clarify its intent by stating, "[T]he purpose of the reported bill is not to freeze technology, but rather to ensure that all persons enjoy the benefits of technological improvements in the telephone network, whether or not they are disabled....Effective use of telephones by persons with impaired hearing is the goal that this legislation seeks to realize. The current arrangements for inductive coupling are only a means to achieve that goal. The legislation does not seek to entrench this technology, but rather to promote new compatible technologies to all persons." (97-888, pages 5,6,12) OUT looks forward to continued improvement in both telephone and hearing aid technologies and to improved hearing for all persons.

TECHNICAL STANDARDS

Although it is not covered by a provision of S 314, we take advantage of this opportunity to call the Subcommittee's attention to a problem that has arisen with regard to the FCC's technical standards on telephone magnetic field strength levels. FCC rule 68.316 sets forth specifications which a telephone must meet in order to be registered as HAC. The standard specifies an acceptable range rather than one specific strength, based on AT&T's U-type HAC receiver.

Trouble results when telephones emit magnetic signals at or near the bottom of the acceptable range, a level never experienced with the AT&T receiver. Although the phones are entitled to be labeled HAC and sold as such, severely hearing-impaired persons cannot hear the weak low-level signals. OUT has recommended to the FCC that its technical standards be upgraded by lifting the "floor" so that the weakest levels are eliminated as qualification for HAC registration. We will appreciate the Subcommittee's continued interest in this serious problem. Further, we ask that notice of this interest be reflected in the Legislative Report on S 314.

WEAKENING EXEMPTIONS

There are reports that new language will be proposed which will seriously weaken the original version of S 314 and limit its benefits. These will reportedly involve exemptions from the compatibility requirement for cordless phones, refurbished phones, speaker phones with handsets and new technologies which are claimed to be "impractible or impossible" to make HAC.

OUT is opposed to any exemptions from the coverage intended by the original language. Cordless phones, which may become the dominant technology of the future, are as important to severely hearing-impaired people as they are to non-impaired people—as are the handsets on speakerphones. Refurbished phones are especially important to persons who use telecoil-equipped hearing aids because many are sold to employers and those offerered to individuals at retail are priced below new phones. Finally, it is unthinkable to exclude severely hearing-impaired people from the benefits of new technology—under any circumstances. Present law requires that new telephone technologies must provide a means of access for persons who are severely hearing-impaired; this need not necessarily be the present inductive technology. New technology law was included at the instance of industry—it must be left intact.

CONCLUSION

We appeal to you, Mr. Chairman and members of the Subcommittee: grant relief to the millions of severely hearing-impaired people who look to you as their only source of relief. Integrate them again into the mainstream of American life by assuring them equal access to new telephones. This will not solve the total problem but it will stem the dilution of the accessible inventory through the introduction of millions of new unusable instruments each year—and be a significant step forward. We appeal for a favorable report on S 314, in its original language, and floor action as expeditiously as possible.

Senator INOUYE. Thank you very much, Mr. Saks. Our next witness is Ms. Strauss.

STATEMENT OF KAREN PELTZ STRAUSS, SUPERVISING ATTORNEY, NATIONAL CENTER FOR LAW AND THE DEAF, GALLAUDET UNIVERSITY

Ms. STRAUSS. Thank you. Good morning, Mr. Chairman. My name is Karen Peltz Strauss. I am a Supervising Attorney for the National Center for Law and the Deaf, and I am here to represent both the National Center for Law and the Deaf and Gallaudet University today in support of S. 314.

The National Center for Law and the Deaf over the last 13 years has provided legal services to thousands of hearing impaired people throughout the country. We also serve as a national clearinghouse for hearing impaired people on the various state and Federal laws affecting them.

Gallaudet University is the only four-year liberal arts university in the world for hearing impaired individuals.

As you all know, recently Gallaudet captured the attention of the world in its civil rights struggle to obtain a deaf president and a majority of deaf members on its Board of Trustees.

We consider this legislation as part of our continuing effort to expand the civil rights of hearing impaired people.

Most of us take for granted the use of the telephone. We cannot really imagine what it would be like to not have the telephone in any given location.

The 1982 act, Telecommunications for the Disabled Act of 1982, tried to expand the access for people with hearing impairments. But that act did not go far enough. Rather, it created a separate class of telephones called "essential telephones," and it left hearing aid users unsure of whether they can ever use a particular phone in any given location outside of their home. Moreover, as Senator Pressler has pointed out, since the divestiture of AT&T, millions of incompatible telephones have entered the marketplace and have replaced what had once been hearing aid-compatible telephones in a variety of institutional settings.

I would like now to address the recent FCC action taken just a few days ago, announcing its plans to expand the definition of hearing aid-compatible telephones, "essential telephones," to include all credit card operated telephones and all phones in the common areas of a hearing impaired person's work place.

While the expansion of the definition in this way may be an improvement over current FCC rules, we feel that the proposal hardly eliminates the need for the proposed legislation.

The problem is that hearing impaired individuals and hearing aid users will still be relegated to using only certain categories of telephones defined as essential under the FCC proposal.

This means that hearing aid users will still not be guaranteed the use of telephones in a variety of institutional settings, such as hospitals, schools, and businesses.

For example, an individual that travels on business away from his or her work station is not guaranteed, or would not be guaranteed, that he or she would be able to use the telephones in the business offices outside of that business station.

We testify before you after hearings had been held before the House Subcommittee on Telecommunications and Finance, and as we have talked about, after much discussion among industry and consumers on proposed exemptions to the pending legislation.

We are particularly concerned with two of the exemptions. The first of these involves the new technology exemption.

The FCC would have the authority to grant the technology exemption if the FCC determines that compliance with the requirements for hearing aid compatibility for the new technology is either technologically infeasible or if the costs of requiring compatibility are so great as to prevent its successful marketing.

We are concerned that the exemption contravenes Congress' mandate in the 1982 act to ensure that all people, hearing impaired or not hearing impaired, be able to enjoy the technological improvements in the telephone network.

We fear that this is like saying to hearing impaired consumers, you can enjoy your right to hear telephone conversations for the present time only. We offer no guarantees that we will protect that right as soon as new technology for phone communication is developed. We also fear that it will shut out hearing impaired individuals from communication developments that are the wave of the future.

We understand the need to compromise and we also understand that it is likely that this exemption will be included in the law. Therefore, we propose that additional language be added to the law to protect hearing impaired consumers and to make sure that our fears are not realized.

Specifically, we would like language in the law to specifically require the FCC to consider, in granting the exemption, the extent to which telephone access may be lost to hearing impaired persons, if the exemption is granted.

Secondly, we propose that the FCC be allowed to grant an exemption only for a period up to two years. Both the kinds of telecommunication technologies that are being developed and the costs of marketing those technologies continue to change very rapidly.

While it may be technologically impossible to make a certain kind of telephone compatible at its experimental stage, two years later it may be quite simple to make that telephone compatible with hearing aids.

Similarly, something that is too costly to be successfully marketed now may come down in price within a few years after being further tested and distributed. As I said, these are the reasons that we would like the exemption limited to two years.

We feel that a periodic review by the FCC is not a specific enough mandate to the FCC. It leaves wide open the FCC's authority to grant an exemption permanently.

The second exemption with which we are concerned involves cordless telephones. Cordless telephones are becoming increasingly popular. They may soon be used in the work place. Indeed, there are many advantages to phones that need not be tied down to a desk.

To automatically exclude an entire population from the benefits of these telephones is discriminatory, and again relegates that population to a second-class status.

We understand today that one of the proposals is to limit this exemption for a period of three years. We are happy that there will be such a limit placed on an exemption for cordless telephones. We would propose a two-year limit. However, we are willing to compromise.

That concludes my oral comments on S. 314. I would like to thank you for the opportunity to testify in support of the bill. And I would be happy to answer any questions you might have.

[The statement follows:]

STATEMENT OF KAREN PELTZ STRAUSS, ON BEHALF OF GALLAUDET UNIVERSITY AND THE NATIONAL CENTER FOR LAW AND THE DEAF

INTRODUCTION

Mr. Chairman, Gallaudet University and the National Center for Law and the Deaf (NCLD) would like to thank you for this opportunity to testify on S. 314, the Hearing Aid Compatibility Act of 1988. Gallaudet University is the only four-year liberal arts university for hearing-impaired students in the world. Recently, our nation watched as students, faculty and staff of Gallaudet University engaged in a powerful struggle to expand civil rights for hearing-impaired people throughout the country—and the world. Having achieved a victory in our fight for a deaf President for the University, we now continue our efforts on other matters to secure comprehensive rights for hearing-impaired populations.

Since 1975, NCLD has provided legal services and assistance to thousands of hearing-impaired individuals throughout the country. We have worked through the administrative, legislative, and judicial branches of both the federal and state governments to secure the rights of equal access for these individuals. Both Gallaudet and the National Center for Law and the Deaf now express their strong support for S. 314, legislation which we hope will secure such access to the telephone network.

NEED FOR COMPATIBILITY LEGISLATION

As many as sixteen to eighteen million people in this country have some degree of hearing loss. Approximately eleven million of those individuals have losses so severe as to need hearing aids. A great number of those individuals—the number has now approached three million—use hearing aids with telecoils which require hearing aid compatible telephones to effectively carry on telephone conversations.[1] Indeed, the prevalence of hearing impairments among Americans, and therefore, the number of Americans likely to need hearing aids, is expected to rise as the percentage of Americans who are age 65 or older continues to grow.

In 1982, Congress set forth its goal for "universal [telephone] service" to be achieved for all hearing aid users, senior citizens, and disabled individuals. At that time, Congress passed the Telecommunications for the Disabled Act of 1982, P.L. 97-410, 47 U.S.C. § 610 et seq., by which Congress sought to "ensure that these individuals can participate as self-sustaining employees and consumers in the national economy and that they can safely and conveniently travel from state to state with equal access to airports, hotels, restaurants, and other places of public accommodation." H. Rep. No. 97-888 at 4 (97th Cong., 2d Sess. 1982).

Toward this end, the 1982 Act mandated that a certain category of telephones—what is called "essential" telephones—be compatible with hearing aids specifically designed for telephone use.[2] The Act defined essential telephones as coin-operated telephones, telephones provided for emergency use, and telephones frequently needed by persons with impaired hearing. As mandated by the 1982 Act, the Federal Communications Commission ("FCC" or "Commission") later issued regulations further defining and clarifying the term "essential" telephones. 49 Fed. Reg. 1352 (January 11, 1984), codified at 47 C.F.R. § 68.112.

While the 1982 Act and its implementing regulations made a significant start toward improving access to telephone service for hearing-impaired individuals, the past four years have shown that the Act fell short of ensuring universal telephone

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[1] Some individuals have charged that the percentage of hearing aids that are telecoil-equipped has been decreasing in recent years. However, this reflects an increase in the number of individuals willing to use newer, "in-the-ear" hearing aids for minimal hearing losses, rather than a decrease in the number of telecoil users. Currently, the "in-the-ear" models are not equipped with telecoils. Individuals with more severe losses have continued to rely on telecoil-equipped aids to communicate by telephone. In any event, according to GTE's testimony presented before the U.S. House Subcommittee on Telecommunications and Finance on February 24, 1988, efforts are being undertaken to miniaturize telecoils, so that in future years, even "in-the-ear" aids may be equipped with telecoils. Thus, the need for legislation requiring all telephones to be hearing aid compatible cannot be disputed.

[2] When a hearing aid user turns on the microphone of his hearting aid, the aid picks up both feedback, in the nature of a very high squeal, and background noise when it comes near a telephone. In order to remedy this, hearing aid manufacturers install an inductive circuit into the hearing aid. The hearing aid user can then turn on the aid's telephone (telecoil) switch and turn off the aid's microphone switch to make telephone conversations possible with hearing aid compatible telephones. Compatible telephones generate a magnetic field which has sufficient strength to bring the incoming telephone message to the listener through the hearing aid's telecoil.

service for these individuals. Indeed, since the divestiture of AT&T, millions of incompatible telephones—many, if not most, of which have been supplied by foreign competition—have entered the American marketplace. These phones have been installed, among other places, in businesses, hospitals, and schools, often replacing what had once been telephone systems with compatible telephones. The result has been to create a separate class of citizens who are only able to use certain telephones, i.e., those defined by the federal government as "essential." These individuals are never quite sure whether they will or will not be able to use a particular telephone in any given location.

Most of us take for granted the ease with which we use the telephone. For us, all telephones are "essential," all have become an indispensable part of our lives, a part of our lives we could little imagine doing without. For many senior citizens and disabled individuals, the telephone is even more than this; it is their connection to the world, their assurance that they can lead independent lives without the need to rely on others for their communication needs. For disabled and non-disabled persons alike, the telephone is also our link to help in the event of an emergency.[3]

The FCC has long recognized the problems resulting from the limitations imposed by the 1982 Act. In a Notice of Inquiry released May 15, 1987, the Commission requested information about the need for hearing aid compatible telephones in order to revise its own regulations on this point. On March 24, 1988, the FCC held a public meeting announcing its decision to act on the information it had received as a result of this Notice. Specifically, the Commission announced its intention to expand the definition of essential telephones to include (1) all credit card telephones and (2) telephones in common areas of the workplaces of hearing impaired individuals. Expanding the kinds of telephones that must be hearing aid-compatible in this way may serve as an improvement over the Commission's current regulations, but it still fails to address the fundamental problem with the existing federal legislation. Put simply, the Commission's proposal does not eliminate the separate category of telephones—"essential telephones"—created by that legislation for hearing impaired persons. Indeed, the Commission, at its meeting, recognized that the Commission itself is powerless to require universal hearing aid compatibility under the present federal law.

S. 314 would free the FCC of the restrictions which the 1982 Act currently places on its authority. If passed, this legislation can finally eliminate the discrimination which now exists against hearing-impaired individuals. By requiring that all telephones manufactured after a certain date be hearing aid compatible, the bill promises to increase mobility, job opportunities and independence for as many as 3 million Americans.[4]

EXEMPTIONS TO UNIVERSAL HEARING AID COMPATIBILITY

In recent weeks, discussions between consumer groups and telephone manufacturers have centered on the introduction of a substitute bill to S. 314 which would con-

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[3] The 1982 Act requires that telephones provided for emergency use be hearing aid compatible. The FCC has defined such phones as those found in isolated locations, such as elevators, mineshafts, tunnels and highways. However, no one can truly predict where or when an emergency situation might arise. Take, for example, the following scenario: A hearing aid user is at her job, though not at her assigned desk, which has the only hearing aid compatible telephone in her building. She is working late with two other employees, one of whom—Worker A—suddenly requires medical emergency care. The other employee—Worker B—has fortunately taken first aid classes and begins to take preliminary steps to insure the medical safety of Worker A. While Worker B remains with the victim, she directs the hearing aid user to quickly call for an ambulance. The hearing aid user runs to the nearest phone and then realizes that she cannot use it. She must return to the phone on her desk, on the other side of the building, in order to make the call. Of course, other scenarios which are even more dangerous, would involve situations where the hearing aid user was alone with injured Worker A, or where the hearing aid user was working by herself, and was only able to reach a nearby phone in the building in the event of her own emergency.

[4] Moreover, it appears undisputed that there are no added costs to manufacturers or consumers associated with compatible—as compared to noncompatible—telephones. The larger telephone manufacturers acknowledge that they charge similar prices for both kinds of telephones, and the Under Secretary of Commerce for International Trade has confirmed that the cost of a telephone is not likely to increase if it is made compatible with hearing aids. In addition, as noted in GTE's testimony before the House Subcommittee on Telecommunications and Finance on February 24, 1988, if all telephones are required to be hearing aid compatible, the economies of scale would dictate the price of noncompatible telephones to become higher than compatible phones. On the other hand, failure to require that all telephones be hearing aid compatible will, in fact, impose costs to society by impairing the usefulness of the lives of hearing-impaired individuals.

tain certain exemptions to the universal compatibility requirement. We maintain that hearing impaired individuals can achieve equal access to telephone service only with a law that would require all telephones to be hearing aid compatible. Nevertheless, we recognize that our objectives to expand telephone access may only be achieved through compromises on some of these exemptions. We would like to take this opportunity to address two of the proposed exemptions—cordless telephones and new technologies. We are confident that further discussion among your Committee, consumers, and industry will enable us to resolve our differences and arrive at a mutually acceptable law.

Our first concern relates to a proposal to exempt all cordless telephones from the hearing aid compatibility requirements. Improved technology over recent years has made cordless telephones increasingly popular. Indeed, if current trends continue, it is likely that institutions and businesses will take advantages of the many uses offered by telephones which need not be tied down to a single location. Moreover, as acknowledged by GTE in its testimony before the House, cordless telephones may be "particularly useful for many handicapped individuals." To automatically exclude an entire population from the benefits of these telephones is again relegating that population to second class status.

Many, if not most, cordless telephones are already hearing aid compatible. The remainder of those cordless phones which are manufactured within the United States will very likely be compatible—so long as this exemption is not made law—within the next few years. Apparently, however, telephone manufacturers have expressed dismay at a law which would require them to make all cordless phones compatible within one year. For this reason, we propose that the compatibility standards for cordless phones be phased in one year after the requirement becomes law for wired telephones. This would mean that wireless telephone manufacturers would have one year after enactment of S. 314 to make wired handsets hearing aid compatible, they would have two years to make cordless handsets compatible with hearing aids. We are hopeful that this proposal will be considered and adopted during the markup of your bill.

The second proposed exemption with which we take issue would allow the FCC to waive the compatibility requirement for new technologies or services developed by the telephone industry.[5]

As proposed, the FCC would be permitted to grant this exemption if compliance with the compatibility requirements is technologically infeasible or if the costs of compliance would prevent successful marketing of the new technology.

We maintain that an exemption for new technology would directly contravene Congress stated intentions in the 1982 Act. That Act prohibits the FCC from discouraging or impairing the development of improved technology. 47 U.S.C. § 610(e). The House Report accompanying the Act explained that one purpose of the Act was "to ensure that all persons enjoy the benefits of technological improvements in the telephone network, whether or not they are disabled." H.R. Rep. No. 97-888 at 5. It stated that it did not seek to "entrench" the technology of inductive coupling, "but rather to promote new, compatible technologies that provide improved service to all persons, with or without hearing impairments." H. Rep. No. 97-888 at 6.[6]

We fear that a technology exemption may severely undermine any hopes that new technologies will bring improved access for hearing-impaired users. It is possible, we fear, that the exemption will effectively shut out hearing-impaired individuals from communication developments that are "the wave of the future." For these reasons, we urge that the telephone industry be required to consider the needs of hearing-impaired persons at the outset of its development of a new technology. In the past, all too often, developers, manufacturers, and builders would chose a less expensive route of development at the outset, at the price of providing limited or no accessibility for disabled people. These same companies were the ones that were forced to incur greater costs later on to achieve the access they had failed to consider at the start. By way of illustration, consider the example of a structurally inaccessible building. Where accessibility needs are considered at the time the building is constructed, those needs are met at negligible costs. Once the building is standing however, the costs of retrofitting the structure to achieve physical accessibility can soar. Simply put, it makes little sense not to consider and incorporate hearing aid

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[5] We understand that this exemption would only apply to telephones which are not "essential" as that term is defined by the 1982 Act.

[6] The House Committee on Energy and Commerce even went so far as to say that to the extent a change in a telephone network substantially benefits most users, "but impairs universality of service by excluding disabled groups (such as persons using hearing aids)," the FCC may require telephone carriers to stay with the existing technologies. H. Rep. No. 97-888 at 5-6.

compatibility standards in any new technologies to be used for telephone communication. All new technologies and services—not just those in place (as those in place may one day become obsolete and be replaced by the new technologies) must consider the needs of hearing-impaired individuals.

In the event that a technology exemption is adopted by the Committee, we urge the inclusion of certain safeguards in that exemption. Specifically, we propose that, in addition to considering the extent to which a requirement of compatibility for a new technology will be feasible or will affect marketing, when making its determination to grant an exemption, the FCC should consider "the extent to which such exemption shall result in a loss of access to the telephone network for hearing impaired persons." Only if the FCC must consider how the exemption will affect telephone access, will the Commission be acting in compliance with the objectives of the 1982 Act.

In addition, we strongly urge that the FCC not be permitted to grant an exemption for a period longer than two years. Both the kinds of telecommunications technologies that are being developed and the costs of marketing those technologies continue to change at a phenomenal pace. While it may be technologically impossible to make a certain kind of telephone compatible at its experimental stage, two years later, it may be quite simple to make that telephone compatible with hearing aids. Similarly, something that is too costly to be successfully marketed now, may come down in price within a few years, after being further tested and distributed. For this reason, we propose the inclusion of the following language to ensure a periodic review by the FCC of any exemptions granted: "An exemption may be granted for a period of up to two years, after which time an application to renew such exemption may be filed."

We offer one final proposal. To the extent that the FCC must issue regulations on S. 314, we propose that a clause be inserted into the law which—like the 1982 Act—would require the Commission to periodically review its regulations on hearing aid compatibility. *See* 47 U.S.C. § 610(f).

Again, we wish to thank you for the opportunity to testify on behalf of S. 314. We are hopeful that its enactment will finally end the personal frustrations experienced by so many hearing-impaired persons who have been denied full access to the telecommunications network.

Senator INOUYE. Thank you very much, Ms. Strauss. And now may I call on Mr. Robinson?

STATEMENT OF FREEMAN E. ROBINSON, PRESIDENT, GTE CONSUMER COMMUNICATIONS PRODUCTS CORP.

Mr. ROBINSON. Good morning, Mr. Chairman. My name is Freeman E. Robinson and I am President of the GTE Consumer Communications Products Corporation, which is that portion of GTE that provides residential and small business telephones.

Our products are distributed via the GTE Telephone Companies and through most major retailers. I appreciate the opportunity to testify here this morning. And because of time constraints, I will keep my remarks quite brief.

To meet the specific needs of the hearing impaired, GTE has undertaken many programs. These include not only distribution of hearing aid-compatible telephones but also provision of telecommunication devices for the deaf, the TDDs we have been talking about, via the GTE Telephone Companies.

Participation in intrastate TDD relay services, sponsorship of the Deafness Research Foundation, the World Games for the Deaf, and numerous other philanthropic organizations benefiting the hearing impaired.

Late last year, GTE's Spacenet President, C.J. Whelan, was appointed the Chairman of Project Access, which is a fundraising effort for the National Captioning Institute to raise funding to subsidize the costs of decoders.

For the third consecutive year, GTE underwrote the costs of captioning the Superbowl, so our hearing impaired friends and consumers and customers could watch the Redskins victory. I would also like the subcommittee to understand that GTE cares about its hearing impaired consumers and customers.

While we have some concerns with S. 314 as introduced, recent discussion with subcommittee staff is encouraging. This bill will increase access to the network for the hearing impaired to require hearing aid-compatible telephones in order to communicate.

Since the language to be used in the final bill is still fluid, I will cover the principles that are addressed in the current bill and offer GTE's comments about them.

One important part of the Telecommunications for the Disabled Act of 1982 dealt with hearing aid compatibility. The 1982 act authorized the FCC to determine the precise location and quantity coverage for hearing aid-compatible telephones.

However, GTE, on a voluntary basis, has gone further than required under the current law or regulations. I established a policy in my company that all telephones we sell will be and now are hearing aid-compatible. This includes cordless telephones, which are particularly useful for many non-ambulatory and handicapped individuals.

The standard residential telephones sold by GTE Telephone Companies are also hearing aid-compatible. Thus, a universal, hearing aid compatibility requirement for basic telephones would have little effect on GTE because we are already there.

GTE recognizes that many manufacturers' telephones are not hearing aid-compatible, and thus supports a transition period for them to change over if S. 314 or a similar bill becomes law.

I believe most consumers would desire this feature in their telephone if someone in their family, or one of their acquaintances, received a benefit from it.

At the present time, my decision to have all of our products hearing aid-compatible costs in the range of 20 cents to 50 cents per unit.

The concept of regulating handsets, that portion of the telephone that goes between the mouth and the ear, on a going forward basis will allow a faster transition to near universal compatibility as handsets on existing telephones are replaced.

And this may also have the effect of supplying compatibility for other applications where telephone type handsets may be used.

However, I am also a realist. I know there are technological, national security, and other reasons why some telephones cannot or should not generate the magnetic fields currently used by telecoil-equipped aids.

Any final regulation must recognize these issues and provide for them by exempting them from the requirements. At the same time, the FCC should be allowed to authorize experimental or developmental ser-

vices or equipment without requiring conformance to hearing aid-compatible specifications.

As my final point, let me state that one way to improve this legislation would be to have this issue reviewed on a regular basis. The same way the telephone industry standards are reviewed every few years.

I do not know what the new technologies may be five or 10 years off. Congress should be able to satisfy itself that what was sensible in 1988 is still sensible in 1993. Thank you very much.

Senator INOUYE. Thank you very much, Mr. Robinson. Now I will call upon the author of the measure to begin the questioning.

Senator PRESSLER. Let me first say, Mr. Chairman, that I very much want to work on this consensus language which I thought had been worked out, and through some misunderstandings.

First, the only telephones which would be exempted are those with public mobile services or cellular phones, and secure telephones, those used to transmit classified information.

Cordless telephones are not exempt. They just have a longer period for which to comply, three years as opposed to one year from the date of enactment. New technology is not automatically exempted by this legislation.

Not all refurbished telephones are exempted. Any phone which has its handset replaced or repaired during refurbishing would have to be hearing aid-compatible, because new handsets are covered.

Only telephones in which the handsets are not affected during refurbishings would be exempt, as our pre-existing telephones.

Speaker phones with handsets are not exempt. Speaker phones without handsets do not need to be compatible. They can already be heard by the hearing impaired.

So I think there is some misunderstandings in that, but I wonder if staff could meet after this hearing, we could leave the record open for an insertion. Because I think we, from what I have heard here, we have some misunderstandings. But in any event, we will work those out and move forward.

Let me ask these questions, first to David Saks. Would an adaptor or amplifier serve to fill the need addressed by this legislation?

Mr. SAKS. No, Senator. The amplifiers are an extremely valuable device. They help many hearing impaired people use telephones, particularly those who are not severely impaired. Or those who are so impaired that they need both the induction and the amplification.

The class of people who would be benefited by your legislation are severely hearing impaired people whose impairments enable them to use voice telephones.

Senator PRESSLER. Ms. Strauss, do you have any response on that?

Ms. STRAUSS. I can only add that, as Mr. Bennett pointed out, the cost of the adaptor is approximately $25 at the present time.

And given the very, very low cost, or negligible cost, in fact GTE's prepared statement before the House Committee pointed out that if in fact this legislation is passed and hearing aid-compatible telephones become the rule, the economies of scale will make hearing aid-compatible

telephones even cheaper than non-hearing aid-compatible telephones in the future.

Given the very, very insignificant cost of making telephones compatible, it is nothing short of discriminatory to have only the class of hearing impaired individuals have to purchase each a $25 adaptor.

Senator PRESSLER. I would address this to both Ms. Strauss and Mr. Saks. What is your view of the cost to manufacturers or to the public of this legislation?

To anyone at the table. I will address it to all of you.

Ms. STRAUSS. Well, as I have just said, the cost is negligible.

This industry itself has provided statistics that show, or figures that show that it is perhaps 20 to 50 cents to make any given telephone hearing aid-compatible. And in the future, like I said, if the rule is that most telephones are hearing aid-compatible, it will be more costly possibly to make telephones non-compatible.

Mr. SAKS. Senator Pressler, we have been extremely impressed by information that was supplied to you in 1985 by the Department of Commerce, in which they said that there was no additional cost, that the cost of manufacturing a hearing aid-compatible telephone was the same as the cost of manufacturing one which is not hearing aid-compatible.

And I think, we assumed, and I think it is reasonable to assume, that that was based on statistical studies. We took the liberty of attaching a copy of that information to our written comments.

So we think that, we have also been impressed by the fact that the industry has never indicated, except for Mr. Robinson today, exactly how much was involved. Their answers have usually been quite vague.

We have never really had an explanation of why, what is there about a hearing aid-compatible telephone that does add that 20 cents to the cost of manufacturing or marketing it.

Mr. ROBINSON. I think I am dealt the card. There is an incremental cost at this point in time to providing hearing aid compatibility, and it does of course vary from model to model and product to product.

I have seen various statements in, for instance, the FCC's recent statement that went as high as $1.50 to add hearing aid compatibility to a cordless telephone.

I think when you look at these various cost ranges, it really depends on whether you have to retool the product and whether you are going to incorporate the cost of retooling and the cost of the additional componentry you need to be hearing aid-compatible.

That is why I use the range of 20 to 50 cents, and others may use a larger number. In fact, though, once the volumes are established and everyone is doing it, I am certain that the cost will plummet to close to or break even, although there may be some incremental cost.

In terms of what it will cost the consumer, and I think this is a little more important factor, is what will happen in the marketplace as the addition of the cost is put into the product.

Our experience right now, and I am sure that of our competitors, is that there is no incremental price that is received for having your product hearing aid-compatible versus not.

So I do not foresee an impact in the marketplace or to the consumer as a result of adding hearing aid compatibility.

Mr. BENNETT. Freeman just blew me out of the water. I am told that if you are talking cost figures, and you are talking about consumer products, as opposed to products flowing into professional lines or into the interconnect market or the telco market, that you can encounter a cost, a price multiplier of as much as three in there.

Now, I will certainly accept Mr. Robinson's statement that it is the supplier rather than the consumer who has to take the bath on that one, because the market is sufficiently competitive that he cannot get the extra price, whatever that number is. And I certainly agree with David that it is about as vague a number as you can get.

The FCC filings indicate somewhere between 25 cents and $1.50. Our statistics indicate that there are approximately 22 million new consumer-type phones flowing into the market every year.

So the annual incremental cost is that 20 million or 22 million times whatever you consider the incremental cost to be. I will not try to debate the issue of what it is because I truly do not know myself.

I would like to make one other point. This letter from the Commerce Department, which has turned up from year to year in these hearings, does not say that compatible telephones cost less.

It does say that in the opinion of the writer they do not necessarily cost more or less. And I do not believe that there was any statistical basis for that. In any event, the gentleman who wrote it has lost his job.

Senator PRESSLER. Could you demonstrate what makes a telephone hearing aid compatible? Could you do that quickly? I do not know what kind of equipment you have.

Mr. BENNETT. I just happen to have a whole briefcase full of things.

Senator PRESSLER. If you could just show us so that we know what we are talking about.

Mr. BENNETT. Perhaps if you would ask one or two more questions while I get it out.

Senator PRESSLER. Well, I just have one more question for the group. I will ask that.

I would ask Mr. Robinson meanwhile, how does your company choose voluntarily to manufacture only hearing aid-compatible telephones? How can you compete in the marketplace with this added cost?

Mr. ROBINSON. We have chosen to do this frankly in support of hopefully a universality in this.

I think that when you realize that since deregulation nearly 100 million telephones have come into this country, and not a high percentage of those are hearing aid-compatible.

The whole world has changed in terms of how many phones in the embedded base today are compatible versus the way they were before.

We feel as a responsible company that our products should be hearing aid-compatible, and particularly since we are an operating company that our product should be hearing aid-compatible, and it is our policy.

Senator PRESSLER. I have some additional questions for the record, but if we can, if the demonstration is ready, or if it is not quite ready, I have one more question for Mr. Saks and Ms. Strauss.

We have heard that telecoil-equipped hearing aids are on the decline as a percentage of all hearing aids. But the use of hearing aids, particularly among the slightly-impaired population, has recently increased dramatically.

Severely hearing impaired still rely on telecoil hearing aids. Have their numbers declined?

Mr. SAKS. Information supplied to us by the Hearing Aid Industry's Association, the trade association of hearing aid manufacturers, indicate that during the first six years of this decade, 2,419,999 telecoil-equipped aids were sold.

When 1986 is added, that figure jumps to 2,864,990. And then, I only have an estimate of the 1987 figure, and that brought it well over 3 million that had been sold in this decade.

So, it is not quite accurate to state that the need for telecoil-equipped hearing aids is diminishing, since in some years it increased, but some years it diminished. It depends, really, on the incidence of severe hearing impairment among people who can use voice telephones.

They just do not get severely hearing impaired in increasing numbers each and every calendar year. But in two years of the first six, the number increased.

The real answer to this problem, and we have been trying to solve it, is for the new widely-marketed in-the-ear hearing aids to be equipped with telecoils of high sensitivity so that severely hearing impaired people could use them.

Now, we have been trying to motivate research in that area for a little more than a year. We have had some interest, and we just found a renewed interest this week. And hope that results will be forthcoming.

The problem is to miniaturize a high sensitivity telecoil.

Ms. STRAUSS. I do not have anything to add to that.

Senator PRESSLER. Could we have like a one-minute demonstration of that, and then we are out of time.

Mr. BENNETT. I will try and we will see what we get. The basic principle involved here is one of physics. If you put an electric current through a coil of wire, you will create a magnetic field.

If you put a coil of wire in a magnetic field, you will create an electric current. The receiver capsule, the part of the telephone which was used in the ubiquitous 500-type basic black Western Electric telephone was of a design, as are most telephone receivers, that the speech current coming in from the telephone is passed through a coil of wire, that creates a magnetic field, which causes a part in the inside to vibrate, creating audible sound.

The peculiar characteristic of this design of receiver was that some of that magnetic field leaked out of the receiver. And instead of moving the armature it was supposed to it leaked out and was lost in space.

However, that magnetic field which was created by the voltage that was supposed to make the telephone talk could be picked up by another little coil, if contained in the hearing aid.

So that if you had this type of telephone that had this type of receiver, and if you have a hearing aid that has a telecoil in it, this telecoil, you can without audible connection but only through magnetic coupling hear from the telephone to the hearing aid.

If you do not have that type of receiver in a telephone, you do not have a compatible telephone. If you do not have the coil in the hearing aid, you do not have anything at all. And it is a question of how the part is designed.

I have here two telephones, the handsets, they are driven by a tape recording. It talks. They both provide acoustic output. I have here one of the suction cup pickup coils, because it provides much more output than the sample telecoil. But electrically it is the same.

I have here a little amplifier. Nothing comes out. This is a hearing aid-compatible telephone receiver, this is not.

Senator PRESSLER. That is the difference in quality that the person hears.

Mr. BENNETT. I was waving this thing around before. Up until now, what I have told you is completely balanced. May I demonstrate this device which plays into my hand?

Senator PRESSLER. If we have time.

Senator INOUYE. Please.

Mr. BENNETT. Again, we have the incompatible receiver is the white one. If you put this gadget on and turn it on, you get an acoustic output. But you also get the magnetic output that was lacking.

And I see this thing not as the answer, not as the replacement for all hearing aid-compatible telephones, but as the lifeboat for the person who is totally dependent upon his telecoil.

In the rest of the world, you are not going to find hearing aid-compatible telephones. And even if this legislation is passed, for the next 20 years or so, until the incompatibles move out, you are not going to be guaranteed access in every case to hearing aid-compatible telephones.

And it is on that basis that I say, if I were totally dependent on a telecoil, I would have one of these things in my pocket. Yes, it is $25, that is a lot of money to some people. But that is in the neighborhood of, not more than a tenth and more like a twentieth of the cost of a hearing aid.

Are there any questions about this demonstration?

Senator PRESSLER. Thank you very much.

Senator INOUYE. Thank you very much. Senator Exon?

Senator EXON. Mr. Chairman, thank you very much, and I appreciate this panel and the previous panel for being here this morning.

I have been chairing a meeting over in Armed Services and could not get here for this very important hearing. I intend to support Senator Pressler's bill. I think basically it is a good one.

But we recognize that what we have to do here is a practical thing most of all. I had never heard before of these magic small boxes that you have, but I came here especially today to see if there was something going on in the industry that a hearing impaired person could have that would not be too expensive that would provide a hearing impaired person essentially the use of any telephone, if the expense was not too high.

So I hope that maybe somehow by working together on these propositions, we can have some standard equipment that could be built into telephones, at least in sufficient numbers that the hearing impaired would not be cut off from using telephones in most instances.

So I think that we are open to suggestions, all of us, with regard to being totally practical on this proposition, I guess. So I congratulate the industry for what they have been doing with these new electronic devices.

It seems to me that with what we are doing with microchips and the whole industry today we should be able to adapt that without too much difficulty to telephones.

I would suggest that we at least look at the possibility of the telephone industry in some manner, and the manufacturers of equipment, possibly considering a subsidization program of some type that would provide some basic services.

I notice in many public places today special telephones where, as I understand, the volume is significantly increased. But possibly, if industry would say, well, we recognize we have an obligation here, if we did not go all of the way for all of the telephones on this, some kind of a subsidy to get the costs of that down even cheaper than it is today, might be something that we ought to at least consider.

I thank the Chairman.

Senator INOUYE. Thank you, sir. First, I would like to commend GTE for the sensitivity it has shown in deciding to produce only hearing aid-compatible home receivers and portables.

Mr. ROBINSON. Thank you, Senator.

Senator INOUYE. And obviously it must be price competitive, because your company is doing all right.

Mr. ROBINSON. Thank you.

Senator INOUYE. What is the situation in the world in, say, the industrialized countries as to hearing aid-compatible telephone systems?

Mr. ROBINSON. I do not know if I am really truly equipped to answer that question.

In those countries which are deregulated, there is again, just like here, a mixed bag of compatible and non-compatible telephone equipment being sold. And it would very much depend in the regulated countries as to what their specific requirements are.

Generally, though, where it is deregulated, it is just like here.

Senator INOUYE. Would you say that we are ahead of or behind the industrialized world?

Mr. ROBINSON. I would say that our system is better than anyone's, and that is certainly true.

But in terms of where we are in terms of things like fiber optics, et cetera, it is interesting that we are in races with various countries. I would say generally we are ahead, though.

Senator INOUYE. So you think that our hearing impaired people have a better deal in the United States than say in Europe?

Mr. ROBINSON. That is a difficult question to answer, Senator. I think that the induction concept of hearing aid compatibility actually originated in Europe, so that at one point in time there certainly was a little bit of leadership there versus here. And that is my understanding of history, which is fairly vague.

I think that with this act, though, we would come a long way. And certainly I think we would have a very large leg up if we did it.

Senator INOUYE. Just for clarification, I just wanted to make certain that I heard correctly.

You indicated that the additional cost per telephone is 20 to 50 cents.

Mr. ROBINSON. That is correct.

Senator INOUYE. So it is not an horrendous amount.

Mr. ROBINSON. No, it is not an horrendous amount. It was mentioned by Mr. Bennett that sometimes we use a multiple of three times to think what happens to cost by the time it gets to retail.

But as I mentioned in my testimony, or actually in the questions, that in fact at retail we see no differential between hearing aid-compatible and non-hearing aid-compatible telephones at retail pricing.

So that I would see no impact upon the consumer market if this became a universally accepted requirement.

Senator INOUYE. Do you in your advertising indicate that your units are hearing aid-compatible?

Mr. ROBINSON. We do in our packaging, but we do not in national advertising pick that as our dominant theme.

General larger consumer issues are ones that we concentrate on for selling product. But certainly on our packaging we make a very large point that we are hearing aid-compatible.

Senator INOUYE. I thought it might be well to have it in your national advertising, to have those who are blessed know that there are others who are not blessed.

Mr. ROBINSON. I think it is a very good point, and in 30 seconds of air time it is tough, as you well know, to get a lot across. But we certainly will take that under advisement.

Senator INOUYE. Well, Ms. Strauss and gentlemen, I thank you very much for your participation this morning. It has been extremely helpful.

The author of this measure is going to work, as soon as we adjourn today. And we hope to come up with a measure that we can markup in time for consideration by the full Congress.

The record will remain open for two weeks to receive any additional statements that anyone wishes to submit, or to make corrections in your statements.

I thank you very much. The hearing is adjourned.

[Whereupon, at 11:25 a.m., the hearing was adjourned.]

ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

STATEMENT OF ROD E. BRUNKER DIRECTOR, AT&T NATIONAL SPECIAL NEEDS CENTER

I am Rod Brunker, Director of AT&T's National Special Needs Center, the Centers is a nationwide seller specializing in products and services designed for consumers with disabilities.

AT&T has throughout its history maintained a strong commitment to serving the special needs of disabled consumers. The very foundation of the business began with Alexander Graham Bell's work with deaf people. That commitment has continued through great corporate change related to divestiture and will continue into the future.

Today, in more ways than ever before, AT&T is serving the communications related needs of consumers with hearing, speech, vision and motion impairments the continuation of a long-standing response to the needs of impaired per- sons which has included the manufacture and distribution of telephones which are compatible with hearing aids.

Manufacturers who perceive the importance of this market segment achieve competitive product differentiation by incorporating features such as receiver amplification and hearing aid compatibility into their telephone products. In this way the incentives of the marketplace serve disabled consumers well. An example of this is that when AT&T learned that hearing impaired users of the traditional amplified handset were reluctant to leave home without it for fear of encountering a telephone they couldn't use, a new product was designed and introduced which provides convenient, portable amplification at low cost, and also makes any telephone in the world hearing aid-compatible.

The portable amplifier, as well as hearing aid-compatible telephones, are available from the nationwide chain of AT&T Phone Center Stores and from retailers who sell AT&T products, such as Sears and K Mart. They are also available from the AT&T National Special Needs Center.

AT&T has been serving the disabled consumer market in a variety of ways:

1. The AT&T National Special Needs Center provides state-of-the-art communications equipment and long-distance service arrangements to persons with speech, hearing, vision, and motion impairments. Specially trained personnel have served over one-half million people each year since the Center was established in January, 1984. Products range from the portable telephone amplifier, which makes any telephone hearing aid-compatible and can easily be carried in pocket or purse, to a family of four TDD (Telecommunications Devices for the Deaf) models providing a range of features, to the Directel for the person with severe motion disability. Long-distance services include billing inquiries, equal access information, the Reach Out America plan, the AT&T Card, AT&T Long Distance Gift Certificates, long distance dis- counts for certified TDD users, and interstate directory exemptions for certified motion and vision impaired customers. Customers contact the Center via two national toll-free numbers: one for voice callers (800-233-1222), and one for TDD users (800-833-3232). The Center operates Monday through Friday (except holidays) from 8:30 a.m. to 7:00 p.m., Eastern time. Products are delivered via United Parcel Service.

Consumers are made aware of the National Special Needs Center by print and media advertisements, including a series of two minute commercials recently aired over national cable networks (e.g., CNN, CBN, A&E, TBS, Silent Network, etc.). A product brochure is also available from the Center and over one-half million have been distributed to date. The brochure is provided free of charge upon request.

2. A Consumer Advisory Group to the AT&T National Special Needs Center was created early in 1984 with the goal of gaining greater understanding of the needs of disabled people. The Group, whose members represent a cross section of people with disabilities, acts as a consumer sounding board for the Center's management. The Group shares the suggestions and concerns of consumers with AT&T decision makers who can turn ideas into innovative communications products and implement procedures that make us easier to do business with.

3. AT&T Operator Services for the Deaf provides TDD assistance in making AT&T Card calls, third-number billed calls, collect calls, person-to- person calls, calls from hotels/motels. They serve the nation from two locations in the U.S.: Washington, D.C., and Oakland, California. They also provide help in getting directory assistance, give credit on problem calls, and can type to the deaf caller information received from a recording at the called number (e.g., "the number you have dialed has been changed; the new number is 555 ..."). Operators can be reached via a single national toll-free number (800-855-1155) and are available twenty-four hours a day, seven days a week.

4. AT&T provides discounts to disabled TDD users for long distance calls. Calls made during the day rate period (8:00 a.m. to 5:00 p.m.) are rated at the evening rate, and calls made during the evening rate period (5:00 p.m. to 11:00 p.m.) are rated at the night/weekend rate. Thus, the TDD user can make calls from 5:00 p.m. to 8:00 a.m. at the lowest rates possible. A TDD user who subscribes to AT&T's Reach Out America plan can realize even greater discounts.

AT&T continues the tradition of providing quality telecommunications equipment. Standard telecommunications products often provide the right solution for a particular disability. A speakerphone is often a satisfactory solution for a person with bilateral hearing impairment. Repertory dialer telephones provide a solution for motion impaired persons. Furthermore, many of our new telephones offer built in receiver volume control (a maximum of 12db). Our new Portable Telephone Amplifier will not only provide hearing aid compatibility for any telephone, anywhere, but it also will boost the incoming volume by as much as 30%, which is the same as our volume control handsets (a maximum of 20db).

The AT&T Card Caller telephone seen at major airport, hotels/motels and other high traffic areas, provides hearing aid compatibility, receiver volume control, and both audible and visual prompts which make it an ideal telephone for use by both visually and hearing impaired persons.

AT&T wishes to note that S. 314 and the substitute bill apply only to newly manufactured telephones after a certain date and were never intended to apply to refurbished telephones. If the bill were to apply to refurbished telephones, the costs for the industry and the public would far exceed the estimates you have heard here today, particularly the older telephones manufactured by processes no longer in use. Moreover, including refurbished telephones would not benefit the hearing impaired community. Our experience is that this community is well aware of the availability of compatible models, as is our complete line of corded telephones.

AT&T appreciates the opportunity to provide testimony in the hearings on an amendment in the nature of a substitute to S. 314.

NATIONAL ASSOCIATION OF BUSINESS AND EDUCATIONAL RADIO,
Alexandria, VA, March 31, 1988.

HON. DANIEL K. INOUYE
U.S. Senate Washington, DC

DEAR SENATOR INOUYE: On behalf of the National Association of Business and Educational Radio, I would like to request that the following statement be entered into the record for today's hearing before the Senate's Subcommittee on Communications considering S.314, the Hearing Aid Compatibility Act of 1988 ("Act"). Although the statement refers specifically to the Hearing Aid Compatibility Act of 1988 as it appears in the Amendment in the Nature of a Substitute to H.R.2213 ("Amendment"), the points that the statement addresses also apply to S.314.

The National Association of Business and Educational Radio (NABER), Inc., is a twenty-three year old national trade association representing over fifty-five hundred

(5,500) members and thousands of other businesses holding hundreds of thousands of licenses issued by the Federal Communications Commission (FCC) for operation in the business radio and other private land mobile radio services.

NABER is comprised of four membership sections that include radio users, Specialized Mobile Radio (SMR) system owners and operators, radio sales and service dealers, and communications technicians. Since its inception, NABER has participated in every major proceeding before the FCC involving allocation of frequencies for business radio and other private land mobile radio licensees. In addition, NABER is certified by the FCC as the frequency coordinating committee for the Business Radio Service and, with the International Municipal Signal Association and the International Association of Fire Chiefs, the Special Emergency Radio Service.

NABER and its members fully support efforts to ensure that technology and medical science provide for the hearing impaired person equal access to the national telecommunications network. In this regard, it is my understanding that H.R.2213 is anticipated to mandate improving both telephone and hearing aid technologies in order to allow greater access and to provide universal telephone service for hearing impaired persons.

Section (3)(b)(2) of the proposed Amendment in the Nature of a Substitute to H.R.2213 provides for certain exemptions to the initial regulations to be prescribed by the FCC to implement Paragraph 1 of the Act. In this respect, the proposal fully recognizes the need to exclude from coverage all "handsets" used in the public mobile services. The term "public mobile services" is defined in the Amendment as "air-to-ground radio telephone services, cellular radio telecommunications services, offshore radio, rural radio service, public land mobile telephone service, and other common carrier radio communication services covered by Part 22 of Title 47 of the Code of Federal Regulations."

It is NABER's view that a similar exemption should be provided in the ACT to make clear that the Act also excludes from coverage radios or handsets used in the private land mobile radio services covered by Part 90 of Title 47 of the Code of Federal Regulations.

It should be recognized that radio users in the private land mobile radio services primarily use private land mobile radio facilities for dispatch purposes. Interconnection of private land mobile radio with the public switch telephone network (PSTN), when it does occur, occurs most often on a secondary basis, with dispatch still the primary form of operation.

Private land mobile radio users utilize private land mobile radio facilities as an adjunct to carrying on their primary business activities. Such users include taxicabs, delivery services, public safety entities, utilities, and many other commercial businesses which use radio or radiotelephone services not for their personal needs, but to assist the conduct of their businesses.

Further, third party entities licensed as Specialized Mobile Radio (SMR) system operators offer service only to users eligible in the private land mobile radio services. In this respect, operation on an SMR system is even further removed from "the general public" or general access telephone than the type of service provided by the public mobile services and presently to be exempted under the Amendment. Under Part 90 of the FCC Rules, licensees in the private land mobile radio services can provide radio service only to those companies or persons eligible in the particular radio service and to those persons transmitting matters that are permissible in the particular radio service and are not related to personal communications.

In other words, as a course of practice in the private radio services, the use of radio is not indiscriminately offered to the public. Rather, the use is negotiated on a case by case basis by the particular user or by the SMR operator, based upon the size of the radio user's fleet of mobile radios, the user's particular need for interconnection with the public switched telephone network (PSTN), and the billing and airtime terms of such customers. Further, the FCC has clearly recognized the specialized purpose of the private land mobile radio services in Part 90 of its rules which makes clear that the nature of the service being offered by the SMR operators and by users in the private land mobile radio services is not involved with a universal telephone service offering.

Accordingly, on behalf of the National Association of Business and Educational Radio, I urge the Subcommittee to make clear in the Act that an exemption be in-

cluded in Section (3)(b)(2) to cover both handsets and mobile units used in the private land mobile radio services as well as those used in the public mobile services. Similarly, I urge that the definition appearing in Section (3)(b)(4) be expanded to include within its exemption all the private land mobile radio services covered by Part 90 of Title 47 of the Code of Federal Regulations.

Sincerely yours,

E. B. "Jay" KITCHEN, JR., *President.*

STATEMENT OF HON. NICHOLAS MAVROULES, U.S. REPRESENTATIVE FROM MASSACHUSETTS

Mr. chairman, I would like to take this opportunity to express my sincere appreciation to the members of the Senate Commerce Subcommittee on Communications for holding a hearing today on S. 314, the Hearing Aid Compatibility Act of 1988. as you know, I am the sponsor of the House companion bill, H.R. 2213, which currently has 125 bipartisan cosponsors. I am pleased that the Senate also recognizes the significance of this legislation for the hearing impaired and I am most grateful to Senator Pressler for sponsoring S. 314.

This hearing is most timely, following the recent events at Gallaudet University. We had the unique opportunity to witness, firsthand, the struggle for equal rights that occurred during the selection of a new president for Gallaudet University. Now we, as Federal legislators, have the perfect opportunity to responsibly assist in that struggle by working to give all people the chance for equal telephone access. As many of you may be aware, in 1982 congress amended the Communications Act of 1934 to require that all "essential" telephones be hearing aid compatible. The FCC defined essential telephones to include all coin-operated telephones in a public or semi-public location, any telephone provided for emergency uses such as phones in elevators, tunnels, on highways, in hospitals or nursing homes, and any phone needed to signal a life-threatening emergency. Furthermore, ten percent of all hotel room phones must be hearing aid compatible. in the workplace, an employer must honor an employee request for a hearing aid compatible telephone.

Although passage of the Telecommunications for the Disabled Act of 1982 was a tremendous step forward, I believe that it is still possible to improve upon this measure. Over 25,000,000 residential telephones are sold in the United States each year. Of these, approximately 25% are not hearing aid compatible and therefore cannot be used by many severely hearing impaired persons. As we are all aware, the telephone is no longer a luxury. but a necessity. In the case of an emergency, telephones which are not hearing aid compatible can pose a life threatening situation to any severely hearing impaired individual. today, There are over four million hearing aid users, many of whom are elderly. We are all aware of the growing elderly population and the fact that elderly often rely on the telephone to a greater degree than most people since their mobility may be limited. Furthermore, the telephone is often senior citizens' main instrument of communication with friends and relatives. Clearly, enactment of S. 314 will have a beneficial impact on the quality of life of millions of americans.

The FCC recently determined that legislation such as S. 314, which would require that all telephones manufactured or imported one year after enactment be hearing aid compatible, is unnecessary and that current legislation is adequate. The FCC should be more cognizant of the effect of this legislation on those who have hearing impairments, frequently, the elderly. S. 314 would give all people equal access to the telephone—no longer would hearing impaired individuals be treated as second class citizens. In conclusion, I would like to once again express my thanks to the Communications Subcommittee for allowing me the opportunity to testify on behalf of S. 314. I believe that by working together we will be able to achieve the goal that we have set out to accomplish: Giving equal telephone access to all hearing impaired individuals. Thank you for allowing me to express my views on S. 314.

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